NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

OUTSOURCING FACILITIES MANAGEMENT: A COMPARATIVE ANALYSIS BETWEEN THE PRIVATE SECTOR AND DEPARTMENT OF THE NAVY

by

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December, 1996

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REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	December 1996	Master's Thesis

4. TITLE AND SUBTITLE Outsourcing Facilities Management: A comparative analysis between the private sector and Department of the Navy	5. FUNDING NUMBERS
6. AUTHOR(S) Luz, Christopher J.	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey CA 93943-5000	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Naval Facilities Engineering Command, 200 Stovall Street, Alexandria, VA 22332. Public Works Center, Naval Base San Diego, 2730 McKean Street, San Diego, CA 92136	10. SPONSORING/MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.	
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.	12b. DISTRIBUTION CODE

13. ABSTRACT *(maximum 200 words)*

Because of a level DoD budget and the need to modernize the force, DoD is seeking ways to shift some operation and maintenance (O&M) dollars into procurement programs. One way to do this is through outsourcing.

This thesis compares the costs of performing facility management functions within the Navy at NAS Miramar and of outsourcing these functions to private contractors at NAS Fallon. The purpose is to determine if a significant cost difference exists between the two bases. Actual facility management costs were obtained from both NAS Miramar and NAS Fallon for fiscal years 93-96. An area adjustment was made to the cost data at Fallon because of the higher cost of living in San Diego compared to Fallon, Nevada. The thesis also addresses how the Navy deals with nonfinancial factors, such as quality and performance, in an outsourcing situation.

The areas studied in facilities management include the operation and maintenance of buildings, utilities, and vehicles; maintaining environmental quality; adminstration and formulation of contracts; and management support. The study found outsourcing was cheaper in three areas, in-house was cheaper in five, and the costs were similar in one area over a 4-year period.

14. SUBJECT TERMS Outsourcing. Facilities Management.			15. NUMBER OF PAGES 98
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18 298-102

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OUTSOURCING FACILITIES MANAGEMENT: A COMPARATIVE ANALYSIS BETWEEN THE PRIVATE SECTOR AND DEPARTMENT OF THE NAVY

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Submitted in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1996

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ACKNOWLEDGMENTS

The author would like to acknowledge the financial support of NAVFAC and the Public Works Center at San Diego for funding my thesis travel to Washington D.C., Fallon, Nevada, and San Diego.

The author wants to thank the following people at NAVFAC for their patience and guidance during the work in performing this study: Mr. Paul Booth, Ms. Jean Smith, Mr. Willard Jones, Ms. Diane Hinrichs, Ms. Gina Deerway, and Ms. Angie Naill.

The author wishes to thank Ms. Carla Tighe at the Center for Naval Analysis for her knowledge and assistance during the work in performing this study.

The author wishes to thank the following people at NAS Fallon for their patience, assistance, and guidance during the work in performing this study: Ms. Aleta Mills, Ms. Maggie Neidigh, LTjg Russ Mattson, Ms. Arlene Keifer, Ms. Pam Wrenn and Mr. George Levitt.

The author wishes to thank the following people at the Public Works Center, San Diego for their assistance, guidance and patience during the work in performing this study: Mr. Ed Helken, Mr. Jim Roberts, Ms. Viola Ganious, Ms. Patti Garcia, Ms. Alicia Sonesen-Burke, and Ms. Becky Brandt.

The author wishes to thank Ms. Kathy Jugo at NAVFAC (SOUTHWESTDIV) for her patience and support during the work in performing this study.

I. INTRODUCTION

A. BACKGROUND

The use of outsourcing (contracting for the management and execution of a particular task or service) is considered a major instrument to generate savings for DoD modernization, improve the performance of DoD support operations, and sustain readiness of U.S. forces. To meet these goals, DoD has initiated a review of support activities to determine where outsourcing could improve readiness and generate savings. This review includes the areas of depot maintenance, base commercial activities (including facilities management), materiel management, finance and accounting, data centers, and education and training.

With the end of the Cold War, the Department of Defense has tailored its force structure and budget to meet the changed security threats. DoD's force structure today is roughly 30 percent smaller than it was in the 1980's. Its budget has also declined to about 60 percent (in real terms) of its peak in 1985. [Ref. 1] One result from the budget decline is the reduction of resources to purchase new equipment and the modification and upgrade of existing systems. Between 1985 and 1996, the procurement budget declined by about 68 percent in real terms [Ref. 1].

As of today, this reduction in the procurement budget has come at little risk to our fighting forces [Ref. 1]. However, the process of discarding old equipment and redistributing newer equipment throughout the smaller force structure is coming to an end. New equipment must be purchased and new technologies must be taken advantage

of in order to ensure its continued technological superiority in the future.

Private sector experience has demonstrated that outsourcing not only saves money and improves efficiency, but also enables private corporations to better focus on their primary business, while improving service quality and responsiveness [Ref. 2]. The argument follows that these private sector lessons are transferable to many government functions.

B. OBJECTIVES

The objective of this thesis is to determine if facilities management costs are cheaper if performed through outsourcing or in-house. A secondary objective is to provide a template for future cost comparisons without a full performance of commercial activities study prescribed by the Office of Management and Budget [Ref. 3].

C. RESEARCH QUESTIONS

The primary research question is: Is there a significant difference in facility management costs between performing this function within the Department of the Navy as at (NAS Miramar) and outsourcing it to comparable private contractors (as done at NAS Fallon)?

Secondary research questions are:

- Are there any significant nonfinancial differences between performing facilities management in-house or through outsourcing (e.g. level of service, reliability, control, customer satisfaction)?
- If outsourcing is cheaper yet the in-house nonfinancial indicators are more favorable, how might one choose between the two?

D. SCOPE, LIMITATIONS, AND COMPARABILITY

1. Scope

This study will be divided into two major parts. First, a valid and supportable cost comparison will be developed between outsourcing and in-house performance of facilities management. Facility management costs at the Naval Air Station Fallon (outsourced) will be examined and compared to similar costs at Naval Air Station Miramar (in-house). If a significant difference exists, possible causes for the disparity will be offered. Second, nonfinancial differences between performing facilities management in-house or through outsourcing will be discussed. Current DoN contractual practices which try to eliminate these nonfinancial differences will be presented.

2. Limitations

The term Facilities Management will be limited to the following functional areas: management of facilities and equipment, utility systems, transportation and equipment services, family housing, maintenance of environmental quality, and management support. The facility management cost data will be limited to FY93-FY96, which should provide enough useful data to perform a cost comparison. FY93 was chosen as the start year because this was the first year of the five-year Base Operating Support (BOS) contract at NAS Fallon. The study will be limited to the facilities management costs at NAS Fallon (taken from the BOS contract) and NAS Miramar (obtained from the Publics Work Center at San Diego).

It is not the intent of this thesis to determine if the costs of outsourcing and performing facilities management in-house differ significantly at every Naval Air Station

throughout the DoN. However, the methodology used to select the installations and gather and group the data can be used and is not necessarily limited to Naval Air Stations.

3. Comparability

A critical step in the analysis was to select two comparable bases. Several factors outlined below were considered in the selection of NAS Miramar and NAS Fallon.

a. Tangible Assets

(1) Building Square Footage: NAS Miramar has approximately 4.3 million square feet of building space and NAS Fallon has approx. 2.0 million [Ref. 4]. However, several new BOQ's, BEQ's and a commissary/NEX facility have recently been constructed at NAS Fallon and have not been accounted for. Also, one additional BEQ is planned to begin construction during FY97 at NAS Fallon.

(2) Current Plant Value of Structures: Structures at NAS Miramar have a current plant value of $189,626,000 and at NAS Fallon their value is $136,541,000 [Ref. 4]. Structures include items such as runways, aircraft parking aprons, taxiway lighting, missile and space systems range, roads, fuel storage, and weapons range operation towers.

(3) Runways: NAS Miramar has approximately 1.5 million square yards and NAS Fallon, 1.7 million square yards [Ref. 4].

(4) Current Plant Value of Utilities: Utilities at NAS Miramar have a current plant value of $6,231,000 and at NAS Fallon their value is $5,824,000 [Ref. 4]. Utilities include items such as communication lines, compressed air plant and distribution system, electrical distribution lines, water distribution lines, and fire alarm

systems.

b. Intangibles

The overall condition of facilities and equipment are subjectively reported each year and are rated from Condition 1 (highest) to Condition 4 (lowest). Input is consolidated from each tenant and the host activity into a report called the BASEREP. Items rated C3 or C4 are one factor in driving a base's budget amount. BASEREP information was obtained from FY87-94 at both bases.

Overall, both bases are similar in terms of facility condition and equipment condition. As of 1994, NAS Miramar reported 56 percent of its facilities in the C3/C4 category, while NAS Fallon reported 68 percent. In terms of equipment condition, NAS Miramar reported 7 percent in the C3/C4 category while NAS Fallon reported zero percent. Both numbers are quite low and should not impact the comparability of the two bases.

c. San Diego Adjustment Factor

Because of cost differences between San Diego and Fallon, NV (in terms of wage rates, taxes, cost of living and material costs), an overall adjustment factor has been multiplied by the NAS Fallon dollar totals. Then the total costs can be compared more accurately, using the costs at San Diego as the baseline.

E. ORGANIZATION OF THE STUDY

The thesis is divided into seven chapters, beginning with this introduction. Chapter II provides industry definitions of outsourcing, its outsourcing process and examples of where outsourcing is used. Chapter III provides DoD's definition of

outsourcing, its outsourcing process and current uses. Chapter IV provides a summary of the methods used in executing the study and obtaining the data. Also included is a detailed definition of facilities management. Chapter V presents the data collected and compares and analyzes the facility management costs. Chapter VI presents any non-financial differences between outsourcing and in-house performance and discusses how the DoN attempts to eliminate them. Chapter VII summarizes the findings and draws conclusions and recommendations based on the findings.

II. PRIVATE COMPANIES USE OF OUTSOURCING

A. DEFINITIONS

Listed below is a sample of the many ways that private corporations define outsourcing:

- paying another company to provide a service that used to be done internally [Ref. 5]
- complete turnover of a company's responsibilities to a third party [Ref. 6]
- contracting of outside help to perform a particular task of an ongoing concern [Ref. 7]
- "...strategic tool that can help even the most successful companies...." [Ref. 7]
- selecting an outside specialist to perform specific tasks [Ref. 8]
- allocation of certain business processes to an external provider with world-class strengths in these areas [Ref. 9]
- the replacement of salaried labor and management with contractors and outside expertise [Ref. 10]

Outside expertise, contracting labor and management, and certain business processes (services, tasks) are common threads which run through each definition. A succinct definition, which will be considered as the private company definition for use in the thesis, is contracting labor and management of certain business processes (or services or tasks) to outside experts.

B. REASONS FOR OUTSOURCING AND BENEFITS

1. Reasons to Outsource

Based upon the research done by The Outsourcing Institute in over 1,200 companies, ten reasons why a company outsources have been identified. These reasons

are listed below, with a short explanation of each [Ref. 11]:

- **Function Difficult to Manage or Out of Control:** Outsourcing is an option to address these problems but does not relieve management of its responsibilities. If a function is viewed as difficult to manage or out of control, management must first identify why. If management cannot control it, then outsourcing the function may exacerbate the problem.

- **Resources not Available Internally:** Companies may outsource because they do not have the required resources to meet an ongoing or new requirement within the company.

- **Reduce and Control Operating Costs:** This is considered the single most tactical reason for outsourcing. Access to an outside provider's lower cost structure is clearly one of the most compelling reasons to outsource.

- **Cash Infusion:** In industry, outsourcing may involve the sale of assets from the customer to the provider. Depending on the value of the assets, the sale could result in a significant cash payment to the customer.

- **Make Capital Funds Available:** Outsourcing is one way that companies can reduce investment in noncore business functions and thus have additional capital available for core business investments.

- **Free Resources for Other Purposes:** Often resources redirected through outsourcing are people. An organization can redirect its people to greater value-adding activities. Therefore, people who currently focus internally on noncore business areas are free to now focus externally on the customer.

- **Share Risks:** Each investment that a company makes has some amount of risk. When companies outsource (reduce/eliminate certain risk investments) they become more flexible, more dynamic, and are better able to meet changing opportunities.

- **Accelerate Reengineering Benefits:** Outsourcing to a company which is already reengineered to world-class standards enables an organization to realize immediately any anticipated benefits of reengineering.

- **Access to World-Class Capabilities:** It follows logically that, just as their clients are outsourcing to improve their core business functions, vendors have focused their skills on providing world-class service in their areas of expertise.

- **Improve Company Focus:** For many companies, the main reason to outsource is to free-up management time and attention spent on noncore business areas and refocus that time on meeting customer needs.

2. Benefits

Whatever reason(s) a company chooses to outsource, it is difficult to ignore the immediate, tactical financial benefits. Although there are nine other major reasons to outsource, the immediate cost savings is an important reason why companies decide to outsource. Some actual findings in regards to companies who outsource are listed below:

- On average, companies are realizing a 9 percent cost saving and a 15 percent increase in capacity and quality [Ref. 12].

- Outsourcing is very much a top-down decision, with 61 percent of companies stating that the decision to outsource "...was the result of a senior executive directive" [Ref. 12].

- Total annual expenditures for outsourcing by U.S. organizations forecasted for 1996 by The Outsourcing Institute is $100 billion [Ref. 13].

C. THE OUTSOURCING PROCESS

The Outsourcing Institute, working with a number of companies, has found six general steps to the process. These steps include a strategic analysis, identifying the best candidates for outsourcing, defining the requirements, selecting the providers, transitioning the operations, and managing the relationship [Ref. 14]. The remainder of this section expands each step.

1. Strategic Analysis

This first step forces an organization to review its goals and focus on its core competencies. The core competencies of an organization can be viewed as those areas that are critical to its long-term success. Consequently, these are areas where investments

are usually made in order to be extremely successful. If a company does not have a mission statement or overall objectives, then the outsourcing process should not begin.

Executive direction for the entire process is required and companies must understand that they are in it for the long haul. The top level must see that outsourcing is not a short-term, tactical solution, but a reshaping of the organization.

2. Identifying the Best Candidates

Questions that face a company in this step are these: What are the areas that are not core? Which noncore areas will achieve the best return on the outsourcing decision investment? What is that return? How can it benchmark against the providers? How can it benchmark against other companies in the same industry? What is the right scope?

Along with identifying the best candidates is the decision of integration or selective service. A company must decide whether to integrate the requirements and go with a single provider or separate them and put together a group of providers. Performing the next step in the process aids in making this decision.

3. Defining the Requirements

This phase is very labor intensive because the clearer, more complete and measurable the requirements, the easier it will be to complete the process. Time needs to be taken in order to ensure that the best set of requirements are written prior to selecting a provider. Requirements, however, go beyond just describing the results desired, but should include a description of the relationship an organization wants to build with the provider.

One way that The Outsourcing Institute recommends to build this relationship is to be very open in terms of the current problems facing the organization and what it is costing to provide those services today. As stated earlier, outsourcing involves making a long-term commitment. By sharing information in the early stages one can begin to build an open and solid working relationship for the long haul.

4. Selecting the Provider(s)

An organization should seek other organizations that have a similar set of criteria in terms of managing the business, those that approach problems in a similar manner, and those with a similar set of values. It is recommended to select partners on their total capabilities, not just price or any other single aspect. The last step is to negotiate a tough but fair set of performance measures and a reasonable price.

5. Transitioning the Operation

Early communication with all the stakeholders is critical. Everyone within the organization will be affected by the decision. Time is needed for the new relationship to mature and stabilize, but a company should promote early successes. As the relationship builds, it is important to continue promoting the successes of the outsourcing decision.

6. Managing the Relationship

Monitoring and evaluating the performance are two important and obvious aspects of the relationship. One way to alleviate disputes is to create a structure for the early detection of problems in order to quickly resolve them. The Outsourcing Institute has found that organizations create entire management structures which are specifically designed to manage the relationship, and they deem this a critical task. Also, companies

must recognize that people within the organization will be asked to manage in a very different environment. Therefore, when creating a management structure, companies should keep in mind that the new structure will fit the new organizational realities.

D. EXAMPLES OF OUTSOURCING

1. Johnson Controls Helps JC Penny Feel at Home

When JC Penny relocated its headquarters from New York City to Plano, Texas, the responsibility of managing the new 1.9 million-square-foot building fell on the shoulders of Catherine Morales, building operations manager. Many challenges faced her, such as making the brand-new building habitable for occupants while construction continued; maintaining state-of-the-art, energy efficient building systems that included one of the largest partial thermal ice storage systems in the U.S.; and handling the thousands of preventative and predictive maintenance orders as well as customer trouble calls in a timely manner. Her objectives were clear, but she didn't have the in-house staff of JC Penny workers to achieve them.

To assist her in meeting these objectives, she chose to outsource her facilities management to Johnson Controls. Today, after nine years of working together, Johnson Controls has a 30-member staff on site which operates and maintains the mechanical and electrical, plumbing, building automation, fire alarm, energy management, and computer-operated irrigation systems. Johnson Controls, working closely with JC Penny employees, created a customer work order system. Johnson Controls offers what Morales calls "...an international network of experts and consultants just a phone call away. Johnson Controls is responsible for our building running incredibly well." [Ref. 15]

2. ADP Integrates Client/Server for Avis

Avis Rent-A-Car is the second largest car rental operation in the world, with over 4,800 locations and 14,000 employees [Ref. 16]. Avis has been outsourcing its payroll operations for over 20 years with Automatic Data Processing (ADP).

Avis' management views outsourcing as a valuable business strategy – one that helps increase productivity [Ref. 16]. When Avis decided to reengineer its human resources system to a client/server framework, it decided to replace its outdated IMS-based system with ADP's human resource management system, the Client Server Series (CSS). Avis can now take advantage of the new architecture plus enjoy a unique connectivity with a world-class payroll solution.

Mr. Steve Wendland, manager for Avis' Human Resource Information System, summed up its decision by saying:

> We wanted to migrate to client/server technology and selected CSS not only because we wanted to stay with ADP, but because it fully integrated with our ADP outsourced payroll system. Data can be entered once and shared by everyone, which gives us better use of our data and a much more efficient benefits system. [Ref. 16]

By outsourcing this function, Avis has been able to concentrate on its strategic operations in-house and has realized cost savings. Through its relationship with ADP, Avis is better able to take advantage of emerging technology which helps them maintain their competitiveness into the future.

3. Arthur Andersen Accelerates Growth

In just over 18 months, the law firm of Bates Meckler Bulger & Tilson has grown from 16 lawyers and a total staff of 25 people to 45 lawyers and a staff of over 80 people.

An integral part of its staff is the Contract Finance & Accounting specialists from Arthur Andersen.

As Walter Roth, executive director at Bates Meckler, explained, "I was not a long-time supporter of outsourcing when we started the firm." For mailroom and copy center functions, outsourcing certainly seemed the most "expedient, least expensive way of getting trained people, equipment, and supplies when we first opened up," Roth continued. [Ref. 16]

He viewed information technology outsourcing as an interim step toward bringing the function in-house. He did not even consider the outsourcing of any financial functions until one of his bankers told him about Arthur Andersen. What finally sold him on the idea was the flexibility offered by Vince Sparrow, an Arthur Andersen senior manager. Sparrow explained to Roth that "...if you like what you see, we'll take it from there." [Ref. 16] Mr. Roth went on to explain:

> When you start up, you just can't afford the kind of talent you really need. As we've grown, such problems as employee turnover and training are my providers to solve. Over the past 18 months we've tripled our personnel, revenue, and profitability partially through having access to people with great familiarity with their areas of expertise. This has made our growth much easier to manage. [Ref. 16]

E. COUNTER-ARGUMENT & POTENTIAL PROBLEMS

1. Counter-Argument

Although outsourcing appears to be the way to go to refocus a company and cut costs, there are those who warn against it. They believe that outsourcing is just smoke

and mirrors to cloud what is really happening -- companies are merely trying to return to profitability by cutting employment. And one way to achieve this objective is to end their commitment to keep up a home-grown capacity specifically designed to master the introduction and maintenance of information technologies.

Mr. Paul Strassman, a writer for Computerworld, has found, through statistical tests, that outsourcing is not a random phenomenon. He compared 13 major corporations' Economic Value-Added figures (profit-after-tax minus compensation to shareholders for equity capital) for one, two, and three years prior to awarding their major information technology outsourcing contracts. (Similar data for facilities management could not be found, since outsourcing this function is relatively new). Those corporations which outsourced heavily were economic losers before outsourcing [Ref. 17]. Strassman found that they were contracting their information technology because they were in financial trouble. He did not find one company that outsourced with a consistently large Economic Value-Added and rising employment. He claims the losers were shedding their information technology function because they were already shrinking in size. The argument then is that, if outsourcing truly had all of the advertised advantages, economically prosperous and growing companies would use it [Ref. 17].

Strassman goes on to say that he is in favor of outsourcing for any of the good reasons that would take advantage of somebody else's capacity to accumulate know-how faster. Again, that requires a company to fully understand its objectives and be able to benchmark its performance against potential providers. The company cannot view outsourcing as a panacea for its internal problems or declining profits. From his research, he concludes that companies with poor financial performance seem to concentrate on

downsizing (thus outsourcing) as the preferred method for restoring competitiveness. [Ref. 17]

2. Potential Problems

Even if a company goes through with outsourcing one or more of its noncore competencies, some potential problems do exist. Outlined below are four such problems: [Ref. 18]

- **Control:** When a company outsources it loses a good deal of control to the service provider, at least in that specialty area. If a company has strong preferences on how it wants a particular project done, it will have to use strong measures and very clear specifications.

- **Costs Now Versus Later:** The initial contract will usually be at a very good price because the successful provider is competing against several others firms. However, the successful provider has to make a profit to remain in business and will tend to demand high fees for the inevitable changes down the road. Competition against other providers is nonexistent when negotiating those changes.

- **Morale and Public Image:** Severe cut backs in staff can damage a company's public image and hurt morale of the remaining workers. Honest, early communication is needed, especially when outsourcing will have a dramatic affect on the local community.

- **The Human Aspect:** If the outsourcing plan put excessive pressure on the staff (fear of job loss, loss of control, forced transfer to a different company, etc.), it will be the most talented, marketable people who will jump ship first. Top-level executives and managers must keep this in mind during the process and not let dreams of higher profits dominate their thoughts.

III. DEPARTMENT OF DEFENSE USE OF OUTSOURCING

A. DEFINITION

Unlike the multitude of definitions used in the private sector, only two DoD definitions of outsourcing could be found. The differences between the two are minor. Therefore, the DoD definition of outsourcing for this thesis is the following: shifting functions that are traditionally done in-house to the private sector [Ref. 19]. DoD also refers to this as contracting out. The workload shifts, but no governmental facilities are transferred to the private sector. In contrast, the private sector definition of outsourcing from Chapter II is the following: contracting labor and management of certain business processes (or services or tasks) to outside experts.

DoD does, however, place one restriction upon the definition. The provision of services from another government source (e.g. computer services from the General Services Administration) is excluded from the definition [Ref. 19]. If DoD is viewed as an autonomous unit or an individual "business" within the federal government, then this exclusion of services from other government agencies is one of two differences between private sector companies' and DoD's definition of outsourcing. The other difference is that private sector companies include the contracting of both labor and management, while DoD's definition fails to directly address the management aspect. The difference may appear insignificant, but it can imply that DoD is not ready or willing to turn over management responsibilities to outside parties. Chapter VI addresses contractor

management, which is one of several factors used to evaluate the contractor.

B. REASONS FOR OUTSOURCING AND BENEFITS

1. Reasons to Outsource

There are three main reasons why DoD is pushing to outsource noncore activities: to sustain or improve readiness, generate savings for modernization, and improve the quality and efficiency of support to the warfighters. Compared to the ten reasons why private sector companies outsource, DoD aligns itself with seven of these reasons, namely, to reduce and control operating costs, make capital funds available, free resources for other purposes, share risks, accelerate reengineering benefits, gain access to world-class capabilities, and improve the company focus.

DoD does view outsourcing as a short-term method to generate immediate savings, but it also sees it as a strategy for the long-term. The modernization of weapon systems, for example, can take over ten years to accomplish. DoD contends that outsourcing can lead to several desirable outcomes [Ref. 1].

a. Competitive Forces

Just as competition drives private companies to improve quality and increase efficiency, the same holds true for DoD. A better product or service provided to the warfighter through competition will lead to a more competitive force. Also, any savings through the outsourcing of noncore activities will be available for the modernization of the forces, which leads to a more competitive force.

b. Flexibility

With certain noncore activities outsourced, and thus more funds available, managers will have more flexibility to allocate resources needed to complete tasks and missions as situations change. Managers will also be able to more freely decide where the dollars saved through outsourcing should be spent.

c. Economies of Scale and Specialization

Outsourcing to a firm that can take advantage of economies of scale provides a way for the government to take advantage of current technologies or services that it cannot itself provide as cheaply.

d. Better Management Focus

DoD's three main reasons (stated at the beginning of section B) for outsourcing focus on the warfighter. Deterring, fighting, and winning wars is DoD's business and core mission. By outsourcing noncore activities, DoD is better able to concentrate on managing the warfighting force structure.

2. Financial Benefits

The table on the next page shows savings from 1978 to 1994 achieved through the Office of Management and Budget (OMB) Circular A-76 competitions (the actual process outlined by the A-76 is discussed in a later section of this chapter). The A-76 is a document which outlines those Federal functions that can be outsourced and the steps required to outsource the function(s). On average, these competitions have reduced DoD annual operating costs by 31 percent. Private sector companies won about half of these competitions and government entities won the other half [Ref. 19].

According to the Center for Naval Analyses, competitions that were kept in-house (functions performed by Government employees) realized savings of about 20 percent and those contracted out realized about 40 percent [Ref. 19]. These percent savings are considerably higher than those found in private companies (about 9% cost savings) as discussed in Chapter II. One possible reason for the significant difference in savings could be Government operating inefficiencies which were discovered through the competition process.

Service	Competitions Completed	Total Annual Savings (millions of FY 96 dollars)	Percent Savings
Army	510	$ 470	27%
Air Force	733	560	36%
Marine Corps	39	23	34%
Navy	806	411	30%
Defense Agencies	50	13	28%
Total	**2,138**	**$1,478**	**31%**

Table 3.1. Savings from A-76 Competitions, 1978 to 1994 from Ref. 20.

C. DOD IDENTIFIED NONCORE ACTIVITIES

DoD has focused on six areas in which to generate the savings required for modernization. DoD has performed the first two steps in the outsourcing process as outlined in Chapter II. The first step is a review of its core competencies and its overall objectives. These objectives are detailed in numerous strategic documents (e.g. National Security Strategy and National Military Strategy) and are continuously updated. Also, DoD has identified the following six noncore competencies as the best candidates to

achieve savings, which is step two in the process: [Ref. 1]

- Materiel Management: Encompasses the management of the supply system. Specifically, DoD has targeted disposal operations, distribution depots, and inventory control points.

- Base Commercial Activities: Functions that are necessary to support, operate, and maintain DoD installations. Such functions include facilities maintenance, food services, local transportation, and vehicle maintenance. This is the area of study that this thesis falls under. Currently, DoD outsources about 25 percent of this total workload.

- Depot Maintenance: Focuses on maintaining core capabilities (facilities, equipment, and skilled personnel necessary to meet the Joint Chiefs of Staff's contingency scenarios), which are under direct control of warfighters. Those functions not necessary to meet the JCS's scenarios will be competed and will complement, not replace, the core capabilities.

- Finance and Accounting: DoD is currently performing cost comparison studies in debt and claims management; facilities, logistics, and administrative support at Defense Finance and Accounting Service sites; and bill paying for the Defense Commissary Agency.

- Education and Training: New technology has led to training at remote locations through telecommunications. DoD is currently meeting with the private sector to see whether or not its training management strategies are successful.

- Data Centers: Through the base realignment and closure process, the Defense Information Systems Agency is consolidating from 59 data centers to 16 larger defense megacenters. As a result of these consolidations, 57 percent of the operating budget for defense megacenters in FY96 was for contracted services.

D. THE FEDERAL OUTSOURCING PROCESS

Functions or activities within DoD must meet three conditions before they will be considered for outsourcing: [Ref. 1]

- Private sector firms must be able to perform the activity and meet DoD's warfighting mission. DoD will not consider outsourcing core competencies or

inherently governmental activities. An illustrative list of such functions can be found in Appendix A.

- A competitive commercial market must exist for the particular function or activity.

- Outsourcing must result in the best value for the government and the U.S. taxpayer. Private companies must be able to lower costs and improve efficiency for the long-term.

The process to determine if a function meets these three criteria is outlined in the OMB Circular No. A-76 - Performance of Commercial Activities. The entire circular is over 70 pages, therefore only a brief outline of the process is provided.

1. Functions That Don't Require a Cost Comparison

There are certain functions which have been exempted from a full cost comparison analysis. Such activities include the following: National Defense or Intelligence Security, Patient Care, Core Capability (retaining specialized or scientific in-house or contracted employees to fulfill DoD's mission or meet emergency requirements), Research and Development, No Satisfactory Commercial Source Available, Functions With Ten or Fewer Full-time Equivalents, and Temporary Authorizations for In-House Performance. [Ref. 3]

2. Cost Comparison Waivers

Certain situations may arise for which cost comparisons may be waived. The waiver will allow the direct conversion from in-house to contract or the status quo (work performed in-house) may be allowed to remain. A waiver will be granted under the following circumstances:

- If the conversion (or not) will result in a significant financial or service quality improvement plus a finding that the conversion will not serve to reduce

significantly the level or quality of competition in the future award or performance of work; or

- The [request for] waiver can establish why in-house or contract offers have no reasonable expectation of winning a competition. [Ref. 3]

One way to obtain a waiver is to perform a shortened and quicker cost comparison, similar to the one performed in Chapter V of this thesis. The term "significant" as used in the waiver requirements is vague and subjective and is not precisely defined anywhere in A-76. As stated earlier, the realized savings from competitions that were kept in-house is about 20 percent and any additional savings beyond 20 percent could be defined as significant. Therefore, savings of 20 percent or higher would appear to be an acceptable threshold for the waiver.

3. Cost Comparison Process

If a waiver is not granted or possible, then a complete cost comparison needs to be performed. The entire cost comparison process consists of five major steps and should be completed within 18 months for a single activity or 36 months for multiple activities. These steps are similar to steps three (Defining Requirements) and four (Selecting the Provider(s)) that private companies take. Private sector steps five and six, Transitioning the Operation and Managing the Relationship, are discussed in Chapter VI. The five major steps are briefly discussed below:

a. Step 1 - Development of a Performance Work Statement (PWS) and Quality Assurance Surveillance Plan (QASP)

Step one defines what is being requested, the performance standards and measures, and timeframes required. Agencies must take care when writing the PWS to avoid limiting service options, increasing risk, reducing competition and not including

statutory or regulatory requirements. The QASP describes the methods of inspection to be used, the reports required, and the resources to be employed, with estimated work-hours.

b. Step 2 - Performance of a Management Study to Determine the Government's Most Efficient Organization (MEO)

The management plan describes the MEO and is the basis for the government's in-house cost estimate. The MEO is that organization that the Government is either currently using or plans to use to fulfill the PWS and QASP requirements. The plan must include all costs necessary to fulfill the PWS and QASP. Agencies are encouraged to consider existing in-house management reinvention, consolidation, reengineering, or any other analyses when determining overall MEO costs. Also included in the MEO cost estimate are transition costs (start-up, capitalization, costs to minimize disruption, or costs of any adverse impacts).

Nonfinancial factors such as decreased productivity and other costs from disruption that cannot be easily quantified are included in the minimal cost differential. That differential is defined as the lesser of 10 percent of in-house personnel-related costs or $10 million over the performance period. The minimum differential is established to ensure that the government will not undertake a conversion for marginal estimated savings.

c. Step 3 - Obtaining Private Sector Cost Proposals

Solicitations are based upon the PWS and QASP. Several methods for obtaining cost proposals from interested private companies are available under the

Federal Acquisition Regulation (FAR). Such methods include sealed-bid, two-step sealed-bid, and competitive negotiation proposals.

For a sealed bid proposal, an Invitation for Bid (IFB) is issued which outlines how to prepare a sealed bid proposal and the scope of work based on the PWS and QASP. Interested parties submit their cost proposals without any discussion of their bids.

In a negotiated cost proposal, a Request for Proposal (RFP) is sent to prospective parties. The RFP details how to prepare the proposal, the scope of work (PWS and QASP), and the evaluation factors for award. The evaluation factors and process for award are discussed in Chapter VI. Discussion and negotiation are usually involved in this type of solicitation.

d. Step 4 - Comparison of the In-house Bid Against a Proposed Contract

For sealed bids, the contracting officer opens the bids and the government's in-house cost estimate and enters the price of the apparent low offer on the Cost Comparison Form (official comparison certification form). The lowest bid, which meets the criteria of responsiveness and responsibility, is announced.

For a negotiated procurement, the government's in-house cost estimate is opened after selection of the most advantageous outside proposal. At this point the Cost Comparison Form (CCF) is completed and the apparent best value is announced.

If, after the contract has been awarded and begun, the cost comparison winner is found to be unresponsive or otherwise unable to perform, the Government rechecks the bids received from the private sector and the in-house estimate. The CCF is

then recalculated and award is made to the next lowest bidder.

e. Step 5 - Administrative Appeals Process

The vehicle to begin the appeals process is the submission of an appeal request. The appeal request must be submitted by an eligible appellant. An eligible appellant is defined as:

- Federal employees (or their representatives) and existing Federal contractors affected by a tentative decision to waive a cost comparison; or
- Federal employees (or their representatives) and contractors that have submitted formal bids or offers who would be affected by a tentative decision to convert from in-house to contract or maintain the status quo as a result of a cost comparison. [Ref. 3]

The appeal request must address specific questions regarding an agency's compliance with the requirements and procedures of the A-76, factual questions regarding agency's justifications to waive a cost comparison, or address specific questions regarding the costs entered by the Government on the applicable CCF and set forth the rationale for questioning those items. The request must also identify any specific instances of agency denials of information not otherwise protected by law or regulation. [Ref. 3]

The appeal request is turned over to an Administrative Appeal Authority, who must be either two levels above the official who signed a waiver request or independent of the activity that prepared the Government's Management Plan and MEO. If significant problems with the waiver request or cost comparison estimates are found, the Appeal Authority must correct such problems and issue an amended decision. An

example of a significant problem would be that the tentative decision to waive a cost comparison is unsupported or is in error [Ref. 3]. The appeal process outlined in A-76 does not authorize an appeal outside the agency or judicial review. A final decision should be rendered within 30 days of receipt of the appeal.

E. IMPEDIMENTS

Unlike private companies who are free to outsource as they see fit, DoD faces numerous laws and regulations which constrain the process. Those laws and regulations which pertain to facilities management are discussed below.

1. Section 2461 of Title 10, United States Code – General Outsourcing

This section addresses Congressional oversight of how DoD manages its support activities. DoD is required under the law to submit numerous detailed reports as to how it plans to pursue outsourcing and ultimately make the conversion decision. The cumbersome reporting requirements act as disincentives for DoD components to outsource. This section of law prevents cost comparisons from being completed expeditiously and, thus, makes it difficult to meet requirements of other statutes. For example, Section 8037 of the Department of Defense Appropriations Act, 1996, which is a recurring provision, restricts the use of appropriations for cost comparisons that are not completed within 24 months (for single activities) or 48 months (for multiple activities) [Ref. 1]. Currently, DoD organizations typically take at least that long to complete cost comparisons, whereas the private sector can complete these similar tasks in about 12 months. OMB Circular No. A-76 stipulates 18 months (single activities) and 36 months (multiple activities), but, unless reporting requirements are streamlined, it will be difficult

to meet these timeframes.

One way to streamline the cost comparison process is to perform a comprehensive yet less detailed preliminary estimate. This estimate is then used as an indicator of whether a detailed A-76 comparison is needed or a waiver is possible. If the estimate is inconclusive (i.e. the costs are similar within 20 percent), then a full A-76 comparison is needed; but only those inconclusive areas need to be studied. Thus, thoughtful, up-front work breakdown of the activity or activities is vital.

2. Section 8020 of the Department of Defense Appropriations Act, 1996 – 10 Employee Threshold

Research performed by the Center for Naval Analyses found that the cost to perform a study of a large group of employees at one time led to greater savings than studying a smaller group [Ref. 20]. Section 8020, however, requires DoD to perform as detailed a cost comparison of a small group (ten employees) as it does for those involving larger groups. A higher threshold would streamline the decision making process and ensure a greater return on taxpayer resources used to perform the study [Ref. 1]. This threshold of ten employees is lower than the still burdensome 45 employee threshold set by 10 U.S.C. 2461.

IV. COST CATEGORIES

A. FACILITY MANAGEMENT DEFINITION

The Public Works Information Architecture (PW ARK) is a document which, among other things, describes the functions performed by public works organizations. The definition of facilities management for use in this thesis is tailored from the PW ARK Business Model functions. Outlined below are those functions [Ref. 21]:

- 021A - Manage Facilities and Equipment: Manage and plan for the maintenance, repair, alteration, improvement of facilities and equipment. This includes buildings and structures, roads, grounds, and airfields.

- 021B - Provide Utility Services: Provide utility services to consumers including steam and other forms of thermal energy, electricity, natural gas, potable and nonpotable water, sewage, compressed air, chilled water, and other common services. Operate utility plants and distribution systems. Maintain utility plant equipment.

- 021C - Provide Transportation Equipment and Services: Provide transportation equipment to support movement of goods and personnel, construction projects, and base maintenance. Transportation equipment is defined as Civil Engineering Support Equipment (automotive vehicles, construction, railway, firefighting, and weight handling equipment), Materials Handling Equipment, and cranes. This function includes the operation and maintenance of transportation equipment.

- 021E - Maintain Environmental Quality: Includes all efforts to manage renewable natural resources and air, land, and water quality for the benefit of all species. Provide industrial waste utility services.

- 021F - Formulate and Administer Contracts: Procurement of goods and services from sources external to the Public Works Organization including all activities associated with the formulation and administration of contractual and ordering documents.

- 021G/H - Provide Management Support: Provide office services and administrative support, comptroller support and personnel support.

B. NAS FALLON'S COST GROUPS

The Base Operating Support (BOS) contract is comprised of over 20 annexes. An annex is a logical grouping of functions that the contractor is to perform (e.g., Annex 15 contains a detailed work description of the electrical utility system). The entire cost of the contract can be broken down by annex. The cost elements (e.g. Direct Labor, Materials, Overhead) are discussed in Chapter V. Listed below are those annexes and their descriptions which relate to the definition of facilities management stated in section A:

1. 021A - Manage Facilities and Equipment

- Annex 13 - Public Works Support Services: workload management, planning and estimating, work authorization preparation, report preparation, correspondence preparation, maintenance of records and files, supply/material management, maintenance management system, work control desk, and performance of preventive maintenance on equipment and systems.

- Annex 19 - Buildings and Structures Maintenance: general maintenance (recurring job orders) to hangars, BOQ's, and BEQ's. Correct all safety discrepancies. Perform recurring and specific job orders to all buildings and structures.

- Annex 21 - Ground Structures: pavement maintenance and repair, pavement striping, grade and maintain roads, repair drainage systems, maintain lawns, perform edging and trimming, provide irrigation, and maintain irrigation system.

- Annex 23 - Swimming Pool Maintenance: inspect, operate, and maintain the pools and all associated equipment.

2. 021B - Provide Utility Systems

- Annex 14 - Operation and Maintenance of Central Utility System (Air Start): operate, maintain, inspect and repair the central utility systems and equipment. Central utility system includes: compressed air and 400 HZ electrical power to aircraft, including air compressors, motor-generators, air hoses, Fixed Point Utility System Consoles, and 400 HZ electrical cables.

- Annex 15 - Electrical Utility System: maintain, repair and operate the electrical distribution system, exterior lighting systems, emergency lighting systems, interior lighting systems, fire alarm system, air operations lighting systems, warning light systems, cathodic protection system, standby generators and portable generators.

- Annex 16 - Heating, Ventilation, Cooling, Refrigeration, and Compressed Air Equipment Operation and Maintenance: operate, maintain, and repair the heating, ventilating, air conditioning, refrigeration, compressed air, steam, and natural gas systems and equipment.

- Annex 17 - Potable Water Supply and Distribution System Operation and Maintenance: operate, maintain, inspect, and repair the potable water and fire protection, treatment, storage, and distribution systems.

- Annex 18 - Sewage Plant/System Operations and Maintenance: inspect, operate, maintain and repair the wastewater collection systems, sewage pumping stations and wastewater treatment facilities.

3. 021C - Provide Transportation and Equipment Services

- Annex 12 - Transportation Services: includes planning, scheduling, cost accounting, report preparation, establishing and maintaining records and inventories, warranty enforcement, and quality control. Provide dispatching service, taxi service, licensing, bus service, trash disposal, and trucking service. Maintain and repair all Government transportation assets.

4. 021E - Maintain Environmental Quality

- Annex 7 - Hazardous Material/Hazardous Waste: develop and implement environmental programs such as hazardous materials handling; proper handling of generated waste; monitoring, storage, transportation and disposal of hazardous waste; underground and bulk storage; polychlorinated biphenyls; spill prevention; control and countermeasures; operation of storage facilities and accumulation points; asbestos; chlorofluorcarbon reclaiming and

recycling; waste minimization; storm water drainage system, and hazardous waste material and waste and regulated waste tracking.

5. 021F - Formulate and Administer Contracts

There is not an annex for this function because these tasks are carried out by Government employees. The cost of this function includes all Government personnel directly involved in the administration and formulation of the BOS contract.

6. 021G/H - Management Support

- Annex 1 - Administration: all management, planning, supervision, and administration to support the completion of the above annexes.

C. NAS MIRAMAR'S COST GROUPS

NAS Miramar requests all of its Facilities Management work through the Public Works Center at San Diego. The PWC in turn performs the work requested using either Government employees or by contract. If Government employees are used, NAS Miramar reimburses the PWC based on predetermined rates. If the work is completed by contract, NAS Miramar reimburses the PWC for the cost of the contract and a contract administration fee.

The actual cost data at the PWC are grouped by the type of work performed. Each type of work group is further broken down into types of services or commodities. These commodities can fall under more than one type of work group. For example, service 3A (Toxicity Non-bulk) falls under four types of work groups in 1996. A complete service listing for 1996 is included in Appendix B. Grouped below are the work types by the definition of facilities management discussed in section A of this chapter:

1. 021A - Manage Facilities and Equipment

The following types of work relate to this category: Type 00 - Specific (Construction) Contracts, Type 10 - Emergency/Service Work, Type 20 - Minor Work, Type 30 - Predetermined Work (e.g. Sanitation and Pest Control), Type 40 - Maintenance and Recurring Work, Type 50 - Maintenance Service Contracts (e.g. Grounds Maintenance), and Type 60 - Maintenance Specific Work.

2. 021B - Provide Utility Systems

Type 80 - Utilities. Cost data for the utility systems is pulled from this work type and summarized on a Utilities Cost Analysis Reports (UCAR). The UCAR is broken down into the following sections: electricity, fresh water, steam production, sewage, natural gas, and pneumatic power.

3. 021C - Provide Transportation and Equipment Services

Type 70 - Transportation Recurring Services.

4. 021E - Maintain Environmental Quality

These costs also fall under Type 80 - Utilities. The UCAR report again summarizes these costs under the heading of Hazardous Waste.

5. 021F - Formulate and Administer Contracts

These costs are mostly found under Type 20, Type 30, and Type 50.

6. 021G/H - Management Support

These costs are part of the predetermined rates established by the PWC and are therefore distributed across most of the Type Work groups. Type Work group 50 is one exception, because the PWC acts only as a money pass-through vehicle for contract award and administration costs.

D. COMBINING THE COST GROUPS

Since the two bases categorize costs in different groups, some costs could not be directly grouped and compared. Outlined below is a description of how the cost groups were combined:

1. 021A - Manage Facilities and Equipment

Since the PWC at San Diego groups costs by type of work, separate costs per annex (as done at NAS Fallon) could not be achieved. Therefore, the costs of the four annexes at NAS Fallon were combined into a single cost group.

2. 021B - Provide Utility Systems

Using the UCAR report from NAS Miramar, direct cost comparison with most of the annexes at NAS Fallon was possible. The only exception is Annex 14 (Operation and Maintenance of Central Utility System - Air Start). These costs were backed out of Type 40 from the two NAS Miramar job order numbers which are used to buy these services.

3. 021C - Provide Transportation and Equipment Services

Since there are not multiple annexes at NAS Fallon under this heading, a direct cost comparison is possible. Type work 70 (minus leasing costs) were used from NAS Miramar and compared directly to the Annex 12 costs at NAS Fallon.

4. 021E - Maintain Environmental Quality

Again, there are not multiple annexes at NAS Fallon under this heading. Costs at NAS Miramar were taken from the UCAR report and compared directly to the Annex 7 costs at NAS Fallon.

5. 021F - Formulate and Administer Contracts

The total cost of this function at NAS Fallon was determined from the number of Government employees working directly on the BOS contract. These same costs were derived at NAS Miramar by summing the administration type services under work types 20, 30, and 50.

6. 021G/H - Management Support

Since there is only one annex at NAS Fallon under this heading, the General and Administrative (G&A) costs at NAS Miramar could be directly compared with NAS Fallon.

V. COST DATA PRESENTATION AND ANALYSIS

A. COST ELEMENTS

As mentioned in Chapter IV, each cost group is broken down into several cost elements. These cost elements appear throughout the cost spreadsheet presented in section C of this chapter. Outlined below are the various cost elements and their descriptions:

- Direct Labor: This is the cost of those workers who perform the necessary repairs and maintenance to the buildings, utility systems, vehicles, etc. At NAS Fallon these costs were determined by taking the direct labor percentage stated in the contractor's proposal and multiplying it times the best and final offer in each annex. Also included in this cost element at NAS Fallon are direct labor costs from contract modifications during FY93-FY96. At NAS Miramar this cost element is tracked as a separate element in each type of work category.

- Other: This cost element includes direct material, subcontract/contract costs, and indirect labor. Direct materials are those materials that can be feasibly identified with the repair or maintenance to the buildings, utility systems, vehicles, etc. Any subcontract costs at NAS Fallon and contract costs at NAS Miramar are included. Contracts at NAS Miramar are discussed in section B of this chapter. Indirect labor includes those workers who do not work directly on the repairs or maintenance, but are required for the work to be accomplished. Such costs may include dispatchers, shop schedulers, or trouble desk operators. At NAS Fallon, this entire cost element was the remaining amount after direct labor was subtracted from the base year award amount (FY93) and option-year amounts (FY94-FY96). At NAS Miramar this cost element was determined by adding the contract costs and other direct costs within each type of work category.

- Production Overhead: This includes costs to perform the necessary repair or maintenance work, except for direct labor and other costs. At NAS Fallon this cost element was determined by backing out a certain percentage from the Other cost element. At NAS Miramar the dollar amount of production overhead is estimated based on the dollar amount of expected work for a particular fiscal year. NAS Miramar tracks actual total overhead dollars using

a total overhead category, which includes both production and general and administrative overhead. The percentage of production overhead to total overhead is determined by dividing the actual production overhead dollar cost by the actual total overhead dollar cost. This percentage was used to back out production overhead from total overhead.

- Indefinite Quantity: This element was found only at NAS Fallon. This element is a quick means to order work above and beyond the original contract without needing a contract modification. There are X number of different trade hours with a not-to-exceed amount per year. Each trade wage rate is predetermined and non-negotiable. Each work order is negotiated (e.g. number of man-hours and material costs). An administrative fee is added to the total work order of material and labor costs (in this case 3.9 percent). No other rates (e.g. profit, production overhead, etc.) are added to the work order amount.

- Profit: At the simplest level, profit equals total revenues minus total costs. At NAS Fallon any profit earned was from contract modifications. In this case the profit rate was predetermined for the base year and option years of the contract. At NAS Miramar the profit target is zero and thus none was calculated.

- Award Fee Earned: A full description of what the award fee is and how it is computed is discussed in Chapter VI. Basically, this amount is earned over and above the award amount and contract modifications. The amount earned is based upon several factors, such as quality and performance.

- General and Administrative Overhead (G&A): This cost element is found under Annex 1 - Administration. This cost element represents home office expenses, such as project managers, comptroller support, computer support, top-level management, etc. At NAS Fallon these costs for the base year and option years are accounted for under Annex 1. Since Annex 1 is for the entire contract, 65 percent of the total cost for this annex is the Facility Management portion. Any contract modifications, however, include a standard G&A rate and are shown in that manner under Annex 1. At NAS Miramar these costs were determined in a similar manner to production overhead. These amounts were summed and stated under Annex 1.

- Overall Project Management (OPM) Award Fee Earned: This cost element is found only at NAS Fallon and is not part of any cost group or annex. This amount represents how well the entire contract is managed by the contractors management staff. It is based on a comprehensive management review, whereas the other Award Fee amounts are for a particular annex only and other factors besides management are rated. Similar to how G&A is

determined in Annex 1, the same 65 percent was used to determine the OPM amount which reflects the facility management portion of the contract.

- Adjustment for San Diego: This factor for each year was determined by a cost of living comparison between the Fallon, Nevada area and the San Diego, California area. Department of Labor service and construction wage rates were used. The totally burdened wage rates are shown in Appendix C. Each hourly wage rate includes Workman's Compensation, State and Federal Unemployment Insurance, Fringe Benefits, and FICA tax. The trades were chosen to represent those trades used in Facilities Management. The factor was determined by dividing the average wage rate at NAS Miramar by the average wage rate at NAS Fallon.

B. OVERLAPPING COSTS AND LIMITATIONS

1. Overlapping Costs

There are some functions which are contracted at both bases which cannot be separated due to the different cost categories discussed in Chapter IV. Some examples of these functions are grounds maintenance, some facility repair and maintenance work orders, vehicle upholstery and painting, minor utility maintenance and repair work orders, and refuse collection. These costs are easily separated at NAS Miramar, but cannot be separately identified at NAS Fallon. For example, grounds maintenance is part of Annex 21 at NAS Fallon and the cost of only grounds maintenance cannot be separated from the annex. Therefore, there are some functions which are contracted at both bases and are included in the cost comparison. Those functions that are contracted at NAS Miramar and which correspond to an entire annex at NAS Fallon have not been included, such as custodial services. This function at NAS Fallon falls under annex 24, which is not included in this analysis.

2. Limitations

Most of the cost data for FY93 was not available at NAS Miramar. The files that contain this information have been archived and could not be retrieved without shutting down the database system. The costs available for FY93 are those which are reported outside of the command, namely those costs on the UCAR. Therefore, only the utility costs in section D of this chapter are analyzed from FY93-96 and all other costs categories are analyzed from FY94-96.

C. DATA PRESENTATION

Table 5.1 beginning on page 43 presents the cost data obtained from NAS Fallon and NAS Miramar from FY93-96. Each cost category discussed in Chapter IV is presented with the corresponding cost elements. The adjustment factor is applied to the total cost in Table 5.1, not to each cost category. In the analysis section which follows, however, the adjustment factor is applied to each cost category.

D. DATA ANALYSIS BY COST CATEGORY

In this section each cost category is analyzed in both tabular and chart formats. These figures begin on page 47 with Table 5.2 and Figure 5.1. The cost data presented in Tables 5.2 to 5.10 are reduced to a common size by computing costs per unit. For example, cost category O21A is for the maintenance of buildings and equipment. In order to more accurately compare this cost at both bases, total square footage of buildings is divided into the cost to maintain the buildings. Similar units of measure are used for the other cost categories. Most of the units of measurement were taken from the P-164 Manual by category code. The P-164 is a detailed inventory of Naval Shore Activities

documented by NAVFAC. The category code is a five digit number that can refer to a specific utility, structure or building. Outlined below are those measures:

- Annex 14 - O&M of Central Utilities - Fixed Point Utility System: As described in Chapter IV, this cost category deals mainly with supplying 400 Hz power to aircraft. This is achieved through the use of motor generators. Therefore, the number of motor generators is used as the unit of measurement.

- Annex 15 - Electrical Utility System: The total number of linear feet of distribution lines (category code 81230) is the unit of measurement.

- Annex 16 - HVAC, Refr., Comp. Air: Several category codes were used for this annex all using linear feet as the unit of measurement. Those category codes are 82224 (Condensate lines), 82226 (Hot Water lines), 82410 (Gas lines), and 89021(Compressed Air lines).

- Annex 17 - O&M Potable Water System: The total number of linear feet of water distribution lines (category code 84210) is the unit of measurement.

- Annex 18 - O&M Sewage System: The total number of linear feet of sanitary sewer lines (category code 83210) is the unit of measurement.

- O21C - Transportation and Equipment: The total number of vehicles in class A - N (vans, cars, pickups, trucks, etc.) is the unit of measurement.

- O21E - Maintain Environmental Quality: There are not similar category codes for this cost category at both bases. For example, at NAS Fallon category code 83240 Industrial Waste lines was used but not at NAS Miramar. Since no common unit of measurement could be found, this cost category was not further analyzed like the others.

- O21F - Administer & Formulate Contracts: The unit of measurement is the actual cost to administer the contracts. At NAS Fallon, this cost consisted of the Government employees directly involved times their respective costs. At NAS Miramar, this cost was determined from the appropriate type of work categories used to track contract administration costs.

- O21G/H - Management Support: The unit of measurement is the G&A cost.

The last column in each table is the percentage of NAS Miramar's cost per unit relative to the adjusted cost per unit at NAS Fallon. The percentage is calculated by

dividing the cost per unit of measurement column at NAS Miramar by the adjusted unit cost at NAS Fallon. As discussed in Chapter III, 20 percent was determined to be significant. Therefore, any percent difference in the table greater than 120 percent means that function is significantly cheaper at NAS Fallon (outsourced) and any percent difference less than 80 percent means that function is significantly cheaper at NAS Miramar (in-house).

It should be noted that the cost data was obtained from only two bases. Also, the data collected and reported is different at both bases and some manipulation was done in order to compare the data. Although minor, the data manipulation could lead to errors when comparing and interpreting the tables.

	FY1993		FY1994		FY1995		FY1996	
	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)
021A - Manage Facilities & Equipment								
Direct Labor	1,164,935	-	1,261,248	1,956,829	1,399,022	2,243,366	1,544,584	2,482,601
Other (DM, Subcontract, IDL)	608,880	-	684,965	3,957,966	623,387	2,212,849	769,115	3,516,607
Overhead - Production	55,357	-	53,692	983,872	66,440	1,216,219	69,118	1,313,143
Indefinite Quantity (includes Admin Fee.)	818,775	-	1,416,125	-	1,344,760	-	698,942	-
Profit - from Modifications only	2,472	-	10,305	-	20,156	-	41,219	-
Award Fee Earned	42,401	-	60,660	-	55,800	-	53,344	-
Subtotal 021A	2,692,820	-	3,486,995	6,898,667	3,509,565	5,672,434	3,176,322	7,312,351
021B - Provide Utility Systems								
Annex 14: O&M of Central Utilities - FPUS								
Direct Labor	109,182	-	110,385	46,199	117,046	63,995	120,583	57,679
Other (DM, Subcontract, IDL)	11,232	-	11,580	12,214	12,151	24,253	15,628	8,611
Overhead - Production	1,378	-	1,252	23,729	2,464	38,320	2,566	31,122
Profit - from Modifications only	460	-	719	-	1,591	-	2,220	-
Award Fee Earned	15,165	-	17,910	-	17,910	-	12,960	-
Subtotal	137,417	-	141,846	82,142	151,162	126,568	153,957	97,412
Annex 15: Electrical Utility System								
Direct Labor	229,570	285,333	298,586	257,148	238,928	285,193	293,648	268,866
Other (DM, Subcontract, IDL)	67,080	169,811	71,866	891,918	74,323	697,710	79,213	182,839
Overhead - Production	6,343	82,979	5,549	85,641	8,812	100,734	8,018	81,967
Profit - from Modifications only	891	-	1,608	-	3,453	-	4,812	-
Award Fee Earned	16,560	-	28,080	-	30,420	-	25,182	-
Subtotal	320,444	538,123	405,689	1,234,707	355,936	1,083,637	410,873	533,672

Table 5.1 FY93-96 Cost Data for NAS Fallon and NAS Miramar

	FY1993		FY1994		FY1995		FY1996	
	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)
Annex 16: HVAC, Refr., Comp. Air								
Direct Labor	473,132	512,943	477,159	717,621	506,312	873,534	663,313	744,768
Other (DM, Subcontract, IDL)	65,940	312,407	67,710	521,447	71,217	438,360	79,439	303,442
Overhead - Production	12,092	148,149	10,157	174,152	17,264	183,795	27,152	100,361
Profit - from Modifications only	7,043	-	8,326	-	12,683	-	29,959	
Award Fee Earned	16,740	-	25,920	-	27,360	-	23,580	
Subtotal	574,947	973,499	589,272	1,413,220	634,836	1,495,689	823,443	1,148,571
Annex 17: O&M Potable Water System								
Direct Labor	55,348	79,368	65,561	177,166	76,361	636,843	121,180	472,758
Other (DM, Subcontract, IDL)	3,859	82,189	4,690	176,556	5,457	382,593	8,887	168,962
Overhead - Production	570	26,692	1,480	59,277	3,009	106,191	6,005	73,675
Profit - from Modifications only	253	-	1,432	-	2,688	-	7,321	-
Award Fee Earned	5,400	-	8,415	-	8,190	-	7,020	-
Subtotal	65,430	188,249	81,578	412,999	95,705	1,125,627	150,413	715,395
Annex 18: O&M Sewage System								
Direct Labor	85,941	63,315	86,052	71,588	90,718	144,984	139,800	99,205
Other (DM, Subcontract, IDL)	19,882	23,983	20,293	61,124	22,456	33,138	35,896	38,377
Overhead - Production	1,945	9,326	1,601	18,206	2,670	31,582	7,091	14,169
Profit - from Modifications only	328	-	483	-	1,066	-	7,385	-
Award Fee Earned	6,615	-	8,595	-	8,550	-	8,420	-
Subtotal	114,711	96,624	117,024	150,918	125,460	209,704	198,592	151,751
Subtotal 021B	1,212,949	1,796,495	1,335,409	3,293,986	1,363,099	4,041,225	1,737,278	2,646,801

Table 5.1 FY93-96 Cost Data for NAS Fallon and NAS Miramar

	FY1993		FY1994		FY1995		FY1996	
	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)
021C - Transportation & Equipment								
Annex 12: Transportation Services								
Direct Labor	1,141,482	-	1,125,189	294,496	1,267,863	291,386	1,237,166	246,491
Other (DM, Subcontract, IDL)	217,040	-	173,151	171,097	193,979	169,070	191,542	330,914
Overhead - Production	26,844	-	18,122	133,242	41,889	133,912	29,341	126,260
Indefinite Quantity (includes Admin Fee.)	5,264	-	3,676	-	459	-	-	-
Profit - from Modifications only	9,689	-	10,272	-	29,143	-	24,702	-
Award Fee Earned	52,200	-	63,720	-	60,480	-	31,950	-
Subtotal 021C	1,452,519	-	1,394,130	598,835	1,593,813	594,368	1,514,701	703,665
021E - Maintain Environmental Quality								
Annex 7: Haz Mat/Haz Waste								
Direct Labor	132,851	141,327	137,358	138,350	145,363	150,816	268,602	146,983
Other (DM, Subcontract, IDL)	78,616	68,381	43,253	70,249	45,318	89,788	162,224	35,462
Overhead - Production	7,078	66,379	3,513	86,773	5,628	90,184	11,969	72,466
Profit - from Modifications only	727	-	1,242	-	2,463	-	2,762	-
Award Fee Earned	45,225	-	48,870	-	46,710	-	48,276	-
Subtotal 021E	264,497	276,087	234,236	295,372	245,482	330,788	493,833	254,911
021F - Administer & Formulate Contracts								
Subtotal 021F	620,570	-	620,570	113,190	632,995	159,067	645,664	333,232

Table 5.1 FY93-96 Cost Data for NAS Fallon and NAS Miramar

	FY1993		FY1994		FY1995		FY1996	
	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)	NAS Fallon ($)	NAS Miramar ($)
021G/H - Management Support								
Annex 1: Administration								
Direct Labor	239,447	-	242,116	-	252,195	-	260,237	-
Other (DM, Subcontract, IDL)	178,849	-	162,195	-	156,902	-	155,170	-
Overhead	15,184	-	10,550	-	13,525	-	10,799	-
G & A (NAS Fallon's figure from mods.)	18,321	222,558	24,759	842,870	44,960	908,765	60,362	836,931
Profit - from Modifications only	275	-	400	-	820	-	1,252	-
Award Fee Earned	5,119	-	10,238	-	8,395	-	5,043	-
Subtotal 021G/H	442,011	222,558	439,708	842,870	463,272	908,765	482,064	836,931
Overall Project Mgmt. Award Fee Earned	84,240	-	66,690	-	84,533	-	112,320	-
Subtotal before Area Adjustment	**6,685,366**	**2,295,140**	**7,511,048**	**12,042,920**	**7,808,226**	**11,706,647**	**8,049,862**	**12,087,891**
Adjustment for San Diego	1.0372	-	1.0258	-	1.1194	-	1.0915	-
TOTAL	**6,934,062**	**2,295,140**	**7,704,833**	**12,042,920**	**8,740,528**	**11,706,647**	**8,786,424**	**12,087,891**

Table 5.1 FY93-96 Cost Data for NAS Fallon and NAS Miramar

1. Cost Analysis of O21A - Manage Facilities and Equipment

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	Total SF	Cost/SF	Total Cost	Total SF	Cost/SF	%
FY1993	$2,792,993	1,377,152	$2.03	$ -	4,289,848 -		-
FY1994	$3,576,959	1,329,494	$2.69	$ 6,898,667	4,294,183	$1.61	60%
FY1995	$3,928,607	1,479,349	$2.66	$ 5,672,434	4,310,672	$1.32	50%
FY1996	$3,466,955	1,540,995	$2.25	$ 7,312,351	4,292,110	$1.70	76%

Table 5.2 COST ANALYSIS - 021A Manage Facilities & Equipment

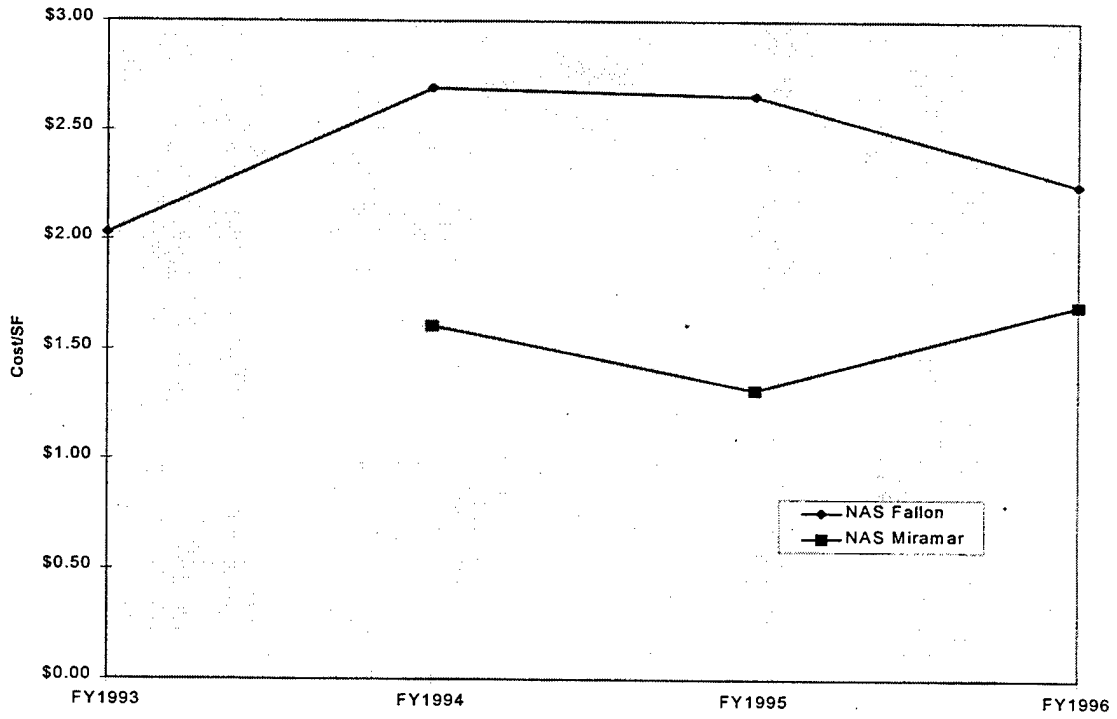

Figure 5.1 COST ANALYSIS - O21A Manage Facilities and Equipment

2. Cost Analysis of Annex 14 - O&M of Central Utilities - FPUS

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	# Motor Gen.	Cost/Gen.	Total Cost	# Motor Gen.	Cost/Gen.	%
FY1993	$ 139,417	4	$34,854.25	$ -	4 -		-
FY1994	$ 145,506	4	$36,376.50	$ 82,142	4	$20,535.50	56%
FY1995	$ 169,256	4	$42,314.00	$ 126,568	4	$31,642.00	75%
FY1996	$ 168,044	4	$42,011.00	$ 97,412	4	$24,353.00	58%

Table 5.3 COST ANALYSIS - Annex 14 O&M of Central Utilities - FPUS

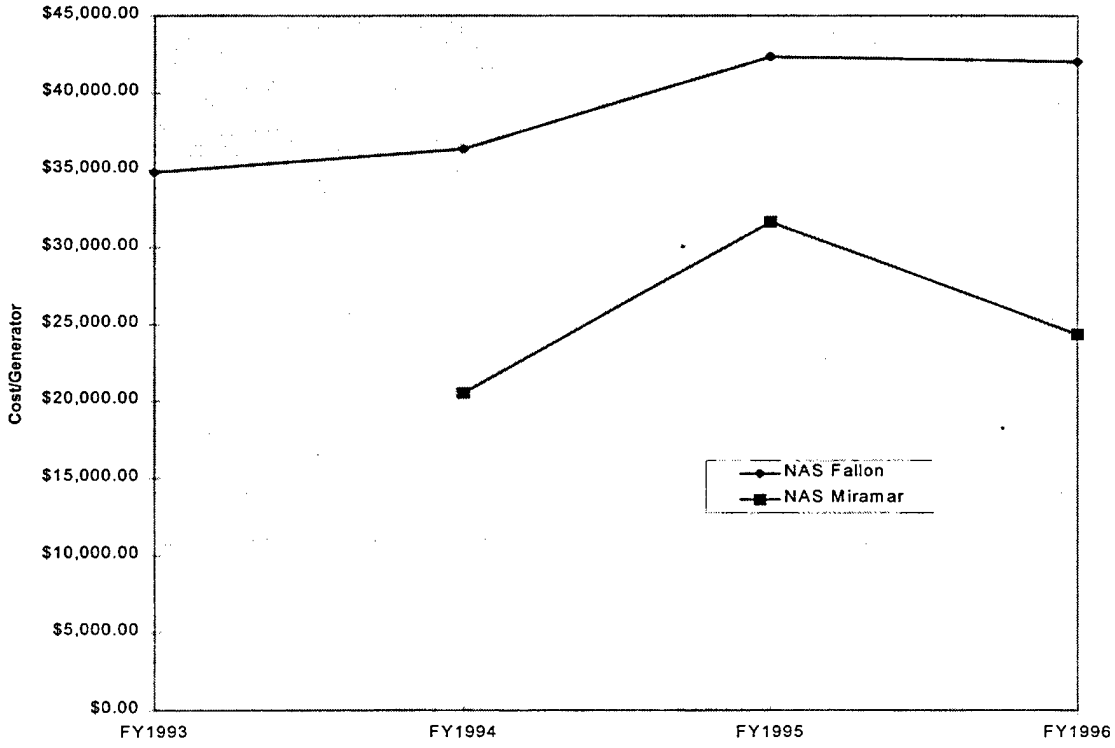

Figure 5.2 COST ANALYSIS - Annex 14 O&M of Central Utilities - FPUS

3. Cost Analysis of Annex 15 - Electrical Utility System

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	Total LF	Cost/LF	Total Cost	Total LF	Cost/LF	%
FY1993	$ 332,365	924,382	$0.36	$ 538,123	481,298	$1.12	311%
FY1994	$ 416,156	924,382	$0.45	$ 1,234,707	487,348	$2.53	563%
FY1995	$ 398,435	957,423	$0.42	$ 1,083,637	487,348	$2.22	534%
FY1996	$ 448,468	959,923	$0.47	$ 533,672	487,348	$1.10	234%

Table 5.4 COST ANALYSIS - Annex 15 Electrical Utility System

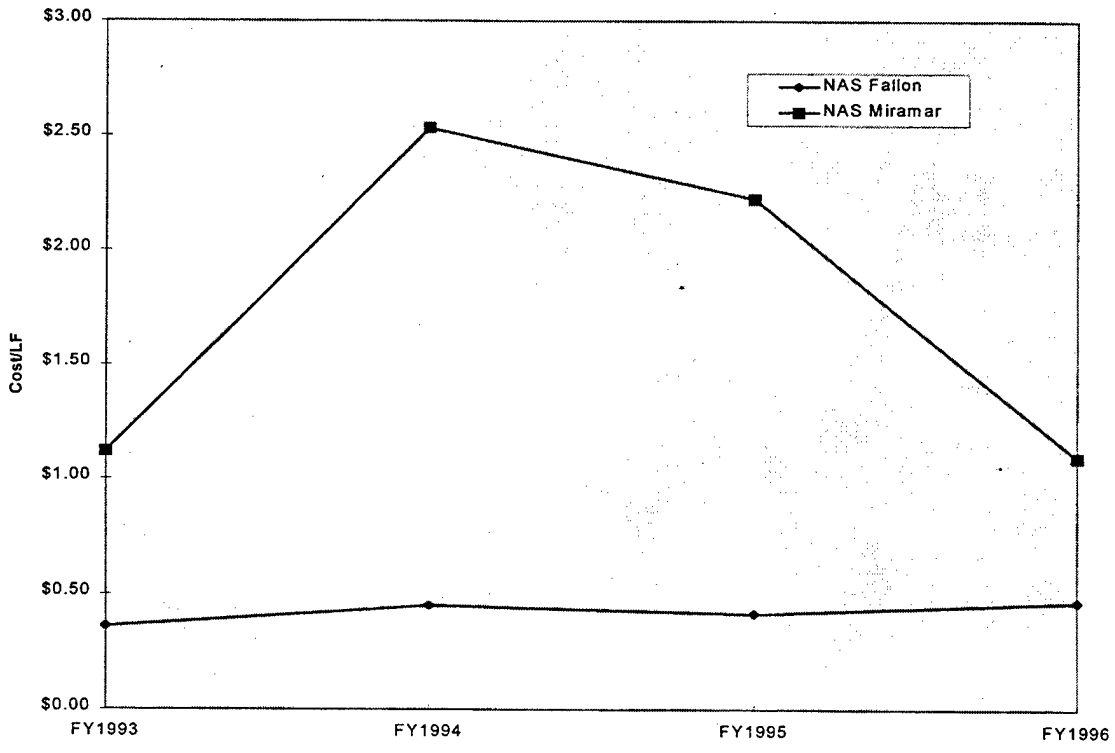

Figure 5.3 COST ANALYSIS - Annex 15 Electrical Utility System

4. Cost Analysis of Annex 16 - HVAC, Refr., Comp. Air

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	Total LF	Cost/LF	Total Cost	Total LF	Cost/LF	%
FY1993	$ 596,335	64,326	$9.27	$ 973,499	229,318	$4.25	46%
FY1994	$ 604,475	64,326	$9.40	$ 1,413,220	229,318	$6.16	66%
FY1995	$ 710,635	65,199	$10.90	$ 1,495,689	229,668	$6.51	60%
FY1996	$ 898,788	65,199	$13.79	$ 1,148,571	229,668	$5.00	36%

Table 5.5 COST ANALYSIS - Annex 16 HVAC, Refr., Comp. Air

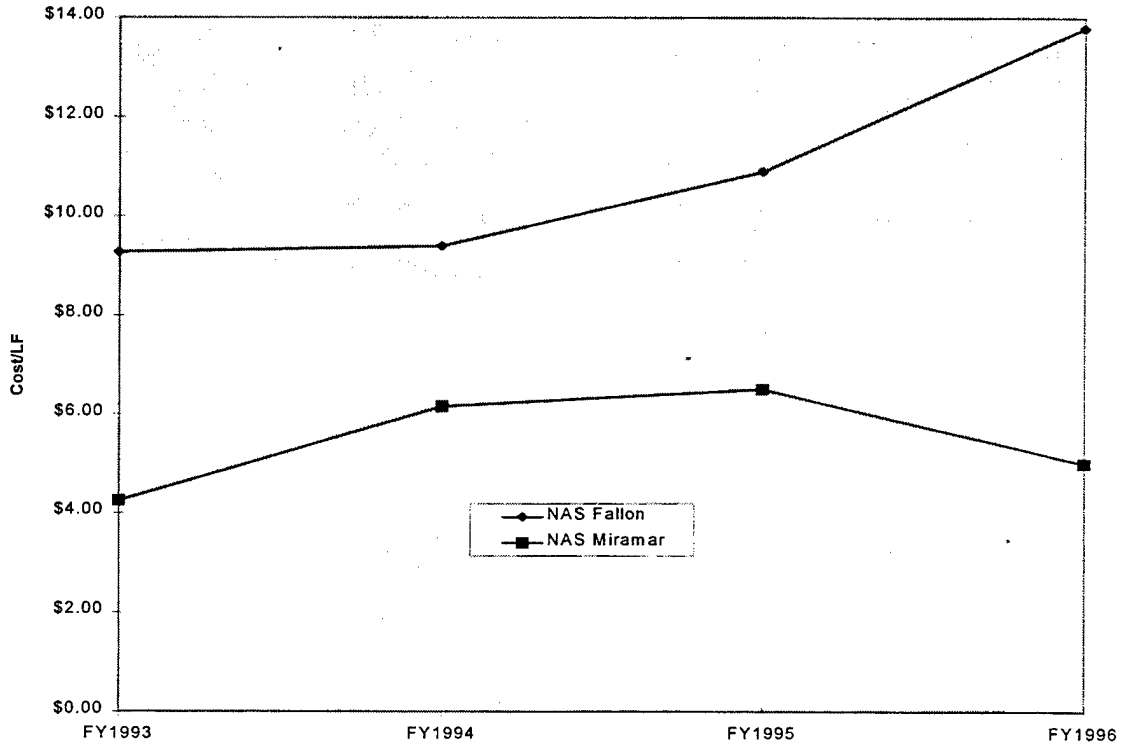

Figure 5.4 COST ANALYSIS - Annex 16 HVAC, Refr., Comp. Air

5. Cost Analysis of Annex 17 - O&M Potable Water System

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	Total LF	Cost/LF	Total Cost	Total LF	Cost/LF	%
FY1993	$ 67,864	143,305	$0.47	$ 188,249	278,872	$0.68	143%
FY1994	$ 83,683	143,305	$0.58	$ 412,999	279,806	$1.48	253%
FY1995	$ 107,132	148,247	$0.72	$ 1,125,627	279,956	$4.02	556%
FY1996	$ 164,176	149,197	$1.10	$ 715,395	279,956	$2.56	232%

Table 5.6 COST ANALYSIS - Annex 17 O&M Potable Water System

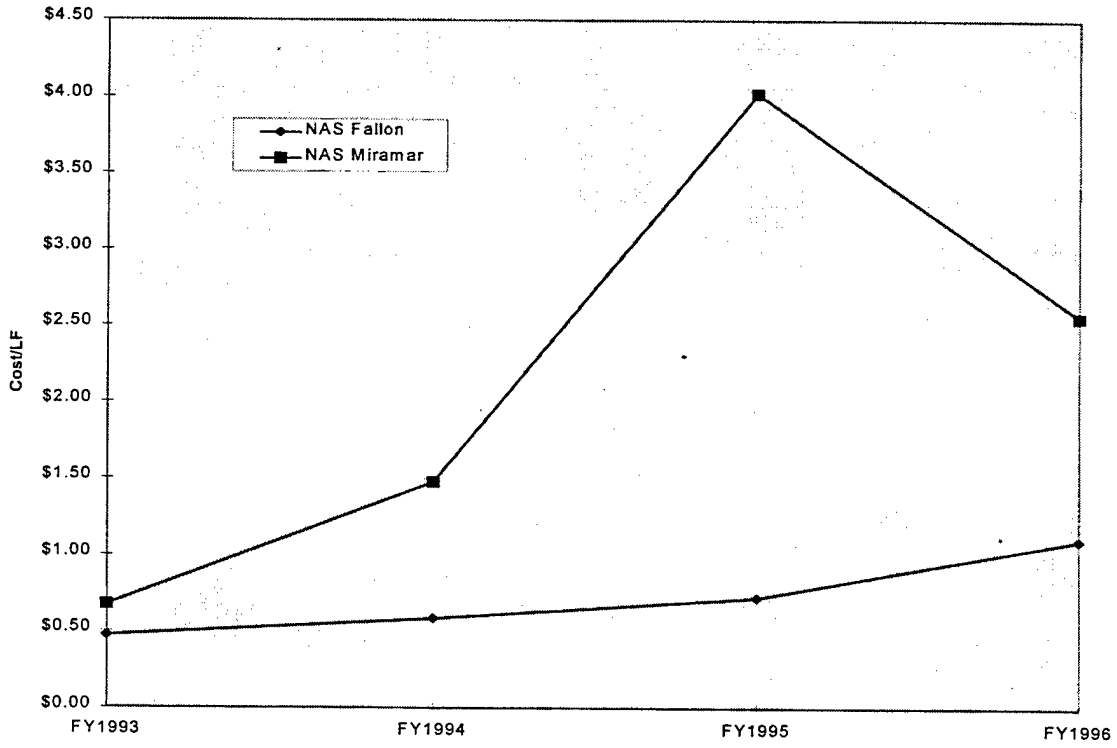

Figure 5.5 COST ANALYSIS - Annex 17 O&M Potable Water System

6. Cost Analysis of Annex 18 - O&M Sewage System

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	Total LF	Cost/LF	Total Cost	Total LF	Cost/LF	%
FY1993	$ 118,978	69,164	$1.72	$ 96,624	214,725	$0.45	26%
FY1994	$ 120,043	69,164	$1.74	$ 150,918	215,824	$0.70	40%
FY1995	$ 140,440	73,699	$1.91	$ 209,704	215,904	$0.97	51%
FY1996	$ 216,763	74,349	$2.92	$ 151,751	215,904	$0.70	24%

Table 5.7 COST ANALYSIS - Annex 18 O&M Sewage System

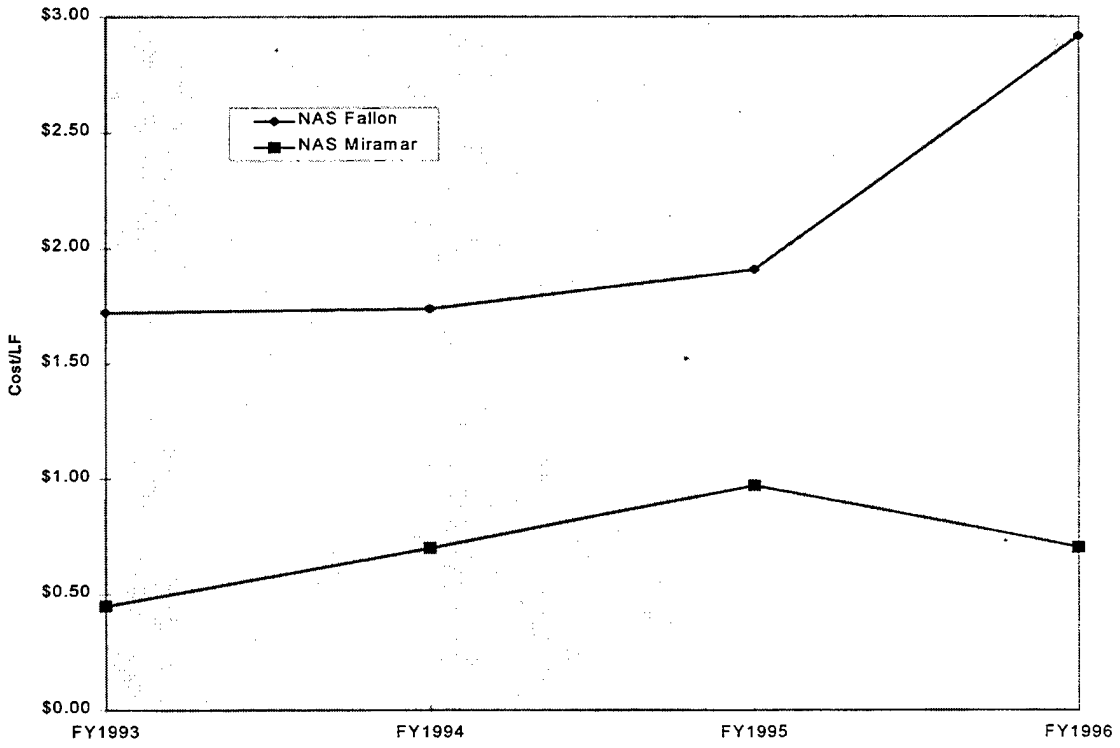

Figure 5.6 COST ANALYSIS - Annex 18 O&M Sewage System

7. Cost Analysis of O21C - Transportation and Equipment

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Total Cost	Total Vehicles	Cost/Vehicle	Total Cost	Total Vehicles	Cost/Vehicle	%
FY1993	$1,506,553	261	$5,772.23	$ --	-		-
FY1994	$1,430,099	314	$4,554.46	$ 598,835	659	$908.70	20%
FY1995	$1,784,114	305	$5,849.55	$ 594,368	884	$672.36	11%
FY1996	$1,653,296	313	$5,282.10	$ 703,665	982	$716.56	14%

Table 5.8 COST ANALYSIS - 021C Transportation & Equipment

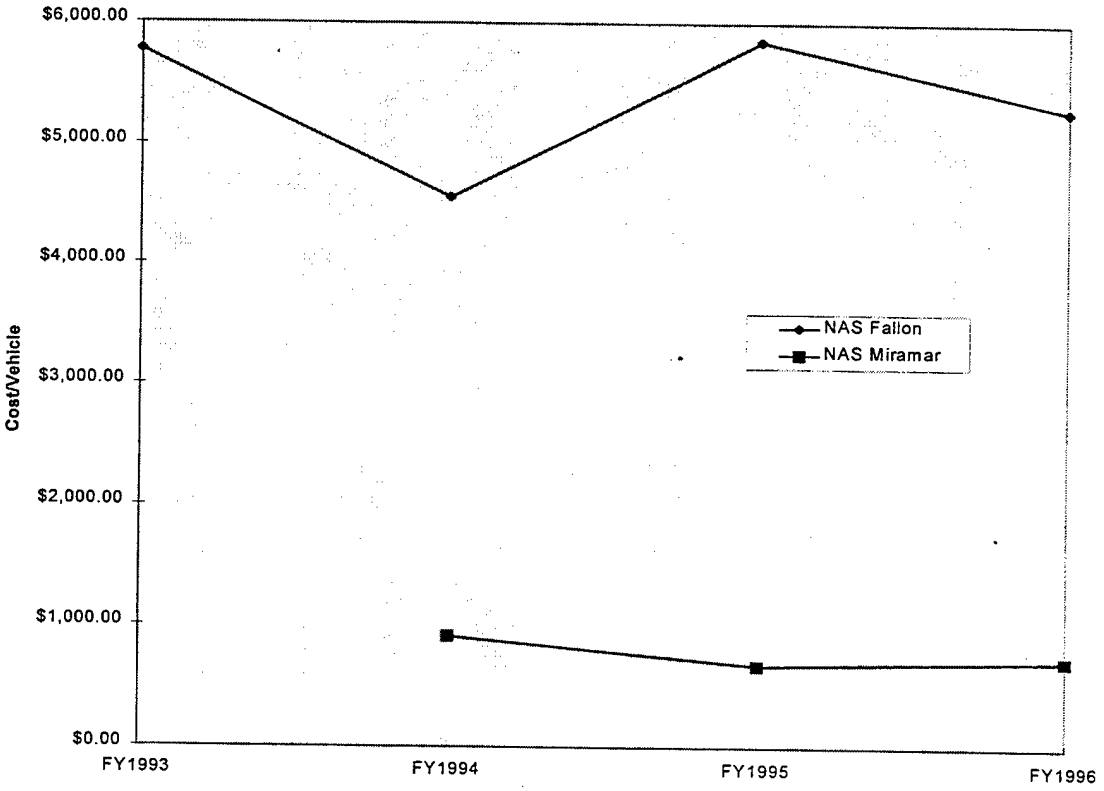

Figure 5.7 COST ANALYSIS - 021C Transportation & Equipment

8. Cost Analysis of O21F - Administer & Formulate Contracts

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	Admin. Cost	Contract Amt.	Cost ratio	Admin. Cost	Contract Amt.	Cost ratio	%
FY1993	$ 643,655	$ 6,685,366	0.10	$ -	$ - -	-	
FY1994	$ 636,581	$ 7,511,048	0.08	$ 113,190	$ 1,269,261	0.09	105%
FY1995	$ 708,575	$ 7,808,226	0.09	$ 159,067	$ 1,347,682	0.12	130%
FY1996	$ 704,742	$ 8,049,862	0.09	$ 333,232	$ 2,380,705	0.14	160%

Table 5.9 COST ANALYSIS - O21F Administer & Formulate Contracts

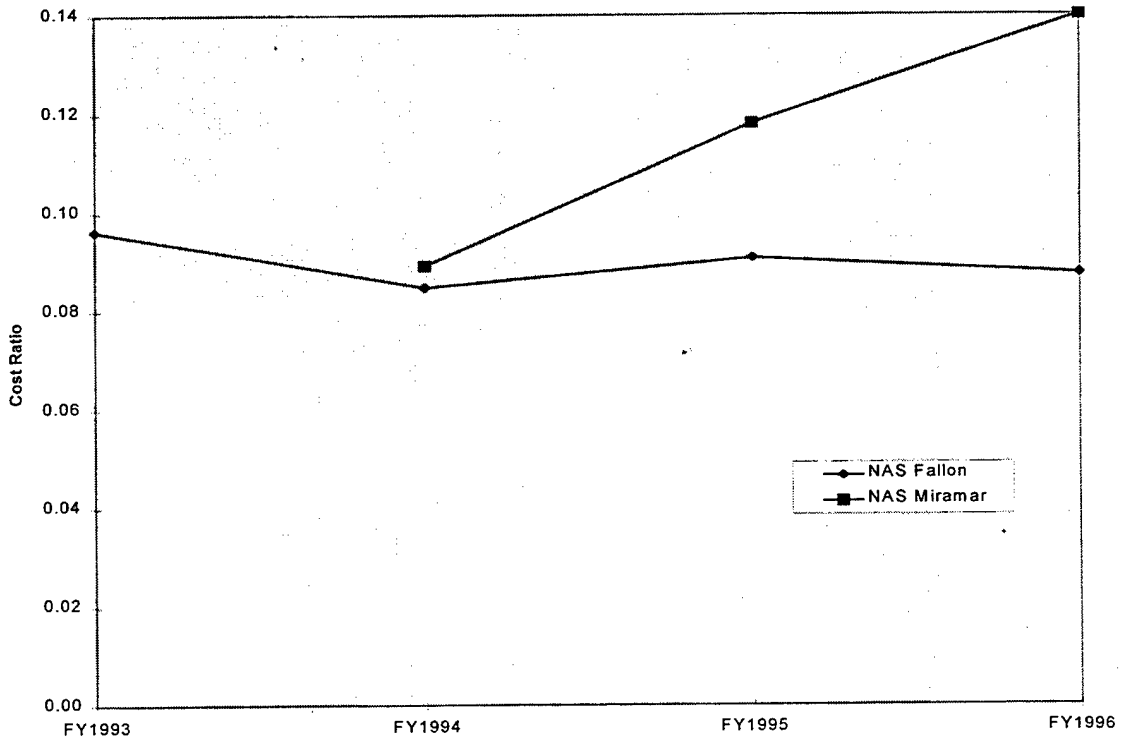

Figure 5.8 COST ANALYSIS - O21F Administer & Formulate Contracts

9. Cost Analysis of O21G/H - Management Support

	NAS Fallon (w/ adjustment factor)			NAS Miramar			
	G&A Exp.	Total Cost	G&A/Total	G&A Exp.	Total Cost	G&A/Total	%
FY1993	$ 458,454	$6,685,366	0.07	$ 222,558	$2,295,140	0.10	141%
FY1994	$ 451,052	$7,511,048	0.06	$ 842,870	$12,042,920	0.07	117%
FY1995	$ 518,587	$7,808,226	0.07	$ 908,765	$11,706,647	0.08	117%
FY1996	$ 526,173	$8,049,862	0.07	$ 836,931	$12,087,891	0.07	106%

Table 5.10 COST ANALYSIS - O21G/H Management Support

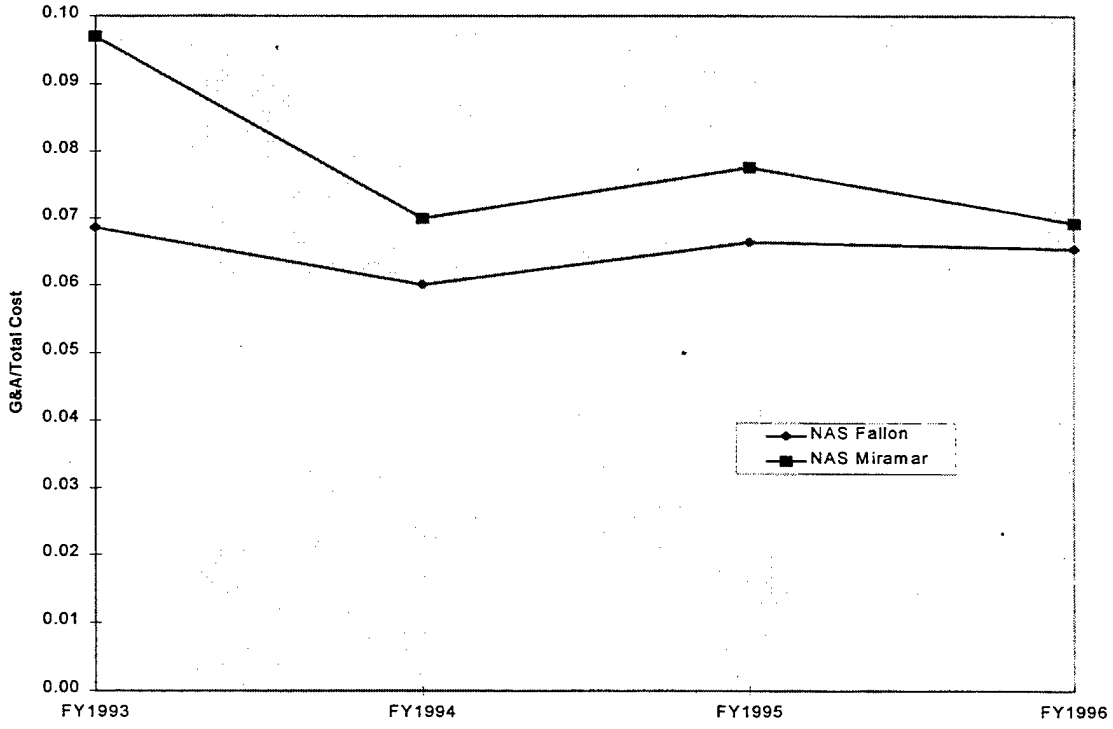

Figure 5.9 COST ANALYSIS - O21G/H Management Support

VI. METHODS TO ADDRESS NONFINANCIAL FACTORS

There are several nonfinancial factors present when the decision is made to outsource a function. Ensuring similar quality of work, flexibility, customer satisfaction, and response time are just a few. Another factor is the establishment and maintenance of an acceptable relationship between the contractor's management staff and the Government representatives who administer the contract. When a company or the Government decides to outsource a function, it gives up direct control of that function. Since the employees who perform the function now work for a contractor, a strategy is needed in order to ensure these nonfinancial factors remain at least the same as before.

The Government does have a strategy which tries to eliminate any differences in these nonfinancial areas. Step one of the strategy is developing a comprehensive plan for selecting a contractor. Factors other than cost are used to rate a contractor's proposals and make the award. This plan is called the Source Selection Plan. Step two offers financial incentives to the contractor for performance in the nonfinancial areas. The logic here is that the better the contractor's performance, the higher the incentive fee. These fees are paid to the contractor over and above the contract award price. This plan is called the Award Fee Plan. Both plans are discussed further in this chapter. Some contracts are written with a base year and several option years. Therefore, once the first year of a new contract is awarded, the Government has the choice not to award any of the remaining option years. The Government can use this leverage of not awarding an option year as another incentive for the contractor to perform well.

A. SOURCE SELECTION PLAN

1. Purpose

The overall source selection plan for a contract describes the basis for evaluating contractor proposals. The source selection plan described in this section deals specifically with the procurement of Base Operating Support (BOS) services. Although the plan corresponds to a specific contract, it can be applied to the procurement of any BOS contract.

2. Acquisition Strategy

A source selection plan applies to competitive proposals vice sealed bidding. Due to the complexity and large dollar amounts of BOS contracts, discussions are likely to be required to ensure that offerors understand the requirements and are technically capable of performing the required services. At NAS Fallon and other bases, the contract type is a combination firm fixed-price/indefinite quantity contract with award fee provisions. The rationale for using this combination of contract types is based on the fact that most services have been performed by contractors for several years and can be easily defined under a fixed-price effort [Ref. 22]. Any other services that cannot be defined are handled under the indefinite-quantity provisions. The purpose for award-fee provisions is discussed in the next section.

3. Organizational Structure

Numerous boards and key personnel are involved to ensure the source selection plan is followed and the best-value proposal is selected. The boards and key personnel, with their functions, are briefly described below.

a. Source Selection Authority (SSA)

This individual can be either the Commander or Vice Commander of a Division (e.g. Atlantic or Pacific) of the Naval Facilities Engineering Command (NAVFAC). This individual is at least a Captain and is not stationed at the base. The SSA ensures that all aspects of the selection are conducted properly. The SSA has final approval of the source selection plan and issues appointment letters for the Source Selection Board (SSB), Technical Evaluation Board (TEB), and Cost and Price Evaluation Board (CPEB) members. Perhaps the SSA's most important function is to review the input from the SSB and either request additional information, determine the apparent awardee if no discussions are needed and direct the Contracting Officer to make the award, or, if discussions are required, establish the competitive range and the context of the discussions. The competitive range is determined on the basis of cost or price and other nonfinancial factors and includes all proposals that have a reasonable chance of being selected for award [Ref. 22]. When there is doubt as to whether a proposal is in the competitive range, the proposal should be included [Ref. 22].

b. Source Selection Board

Typical board members can include the Commanding Officer and/or Executive Officer of the installation; a Public Work's contracts division representative from the appropriate NAVFAC Division; and a representative from other agencies who might be affected by the award (e.g. Naval Regional Contract Center). The board also has nonvoting advisors such as legal representatives, contract specialists, or any other advisors deemed necessary.

This board's main function is to review the reports from the TEB and CPEB and make recommendations to the SSA regarding the overall rating and risk assessment of each proposal.

c. Technical Evaluation Board

Members of this board can include the following personnel: Public Works Officer (PWO), Supply Officer, MWR Director, Housing Director, Engineers, Logisticians, and Contract Specialists. This board briefs the Technical Evaluation Teams (TETs) on the selection criteria, basis for award, and the overall evaluation process. Once the TETs complete their reviews, the TEB prepares written reports and briefs the SSB on the completed technical evaluations.

d. Technical Evaluation Teams

The composition of these teams will depend upon which functions (annexes) the teams are evaluating. For example, a Public Works TET may be formed and would review those annexes which pertain only to Public Works functions. Typical members could include the PWO or Assistant PWO, Transportation Director, a Planner and Estimator, an Engineering Inspector, and Utility Operators. The functions of the TET members are to assign an individual rating for each of the criteria per annex (the evaluation criteria will be discussed later) and, once all evaluators complete their individual ratings and justifications, determine an overall rating per annex.

e. Cost and Price Evaluation Board

Some typical members of this board include the NAVFAC Division Head Contract Specialist and several other contract specialists. This board reviews proposals

for validity of the cost submittals and prepares a formal pricing report summarizing its complete cost and price analysis and evaluation.

4. Evaluation Factors

The evaluation factors can be both price and technical and they can be of any proportionate importance, but are usually weighted equally [Ref. 22]. In addition, other factors can be used and can be assigned degrees of importance as considered appropriate.

5. Evaluation Criteria

The criteria detail what the evaluators will use to rate each factor. For example, the technical criteria can be divided into four parts: method of operations, management relationship with Government, personnel and resources, and past experience. Each of the four criteria has several points that the evaluators must keep in mind when assigning a rating. For example, under management and administration such points may include the following: overall organizational chart; lines of authority and responsibility; incentive plans for personnel performance; accounting, budgeting, and control practices and procedures; and benefit packages for employees. The price factor is assigned to the CPEB and is evaluated to determine the reasonableness and realism of the price. Exact methods used by the CPEB were not discussed in the contract, because it will vary depending on how the contractors present and support their data.

6. Process/Risk Assessment

Each annex is reviewed independently by the members of the TET and the reviewer assigns a rating and its risk assessment for each technical evaluation criterion. Ratings can be either exceptional, acceptable, susceptible to becoming acceptable, or

unacceptable. Again, these ratings are specific to one contract and others can be used. The objective is to have a system that is fairly easy to use and used consistently. The risk assessment categories are either low, moderate, or high.

Once all of the annexes are reviewed and evaluated by each TET member, their comments are consolidated to determine a single rating for that particular annex. These overall annex ratings are then forwarded to the TEB, which determines an overall rating for each proposal based on the "weight" each annex carries. The annexes are grouped by order of importance. Annexes can fall under the mission critical, support, or quality of life groups. The TEB ranks the proposals with the same ratings to determine relative standings among the offerors. This ranking, with support documentation, is then forwarded to the SSB for its review.

B. AWARD FEE DETERMINATION PLAN

1. Purpose

The award fee determination plan is a subjective method of assessing a contractor's performance and determines whether and to what extent such performance merits an award fee amount. The objective of the award fee provision is to afford a contractor an opportunity to earn an increased fee commensurate with the achievement of optimum performance in pursuit of contract objectives and goals [Ref. 23]. The award fee is also a way that the Government can try to achieve its nonfinancial objectives, such as acceptable quality of work, performance of work, management, flexibility and response, and execution of the periods from in-house to contract (transition-in) or a change in contractors (transition-out).

2. Organizational Structure

Just like the source selection process, several boards and personnel are needed to determine and approve the award fee amounts. Outlined below is a brief description of each board or personnel and its functions.

a. Fee Determination Official (FDO)

For NAS Fallon, this individual is the Commander, Engineering Field Activity West, Naval Facilities Engineering Command (NAVFAC). Other plans may have the Vice Commander of a Division (e.g. Atlantic or Southwest) of NAVFAC. Either way, this individual is at least a Captain and is not stationed at the base. The FDO's primary responsibilities are to review findings and recommendations of the Performance Evaluation Board (PEB), approve the award fee earned and payable for each period, and approve changes in the Award Fee Plan.

b. Performance Evaluation Board

The chairperson of the PEB is usually the Commanding Officer of the base. The primary responsibilities of the PEB are to review the performance evaluation reports, submit to the FSO its report which covers its findings and recommendations, and review proposed changes of the award fee plan.

c. Award Fee Coordinator

The coordinator is usually a member of the PEB and collects and reviews the monthly Performance Evaluation Sheets and Quarterly Graded Evaluations. This person also coordinates the final PEB report and forwards it, along with the contractor's self evaluation, to the FDO. The coordinator ensures that the Quality Assurance

Evaluators (QAEs) receive a copy of the contract and modifications, a copy of the Award Fee plan, and appropriate guidance and training.

d. Quality Assurance Evaluators

At least one QAE is assigned to each annex of the contract. Functions of the QAE are to monitor, evaluate, and assess contractor performance; prepare and submit a Monthly Performance Evaluation and Quarterly Graded Evaluation; and obtain input from customers as appropriate to assist in completing the contractor performance evaluation.

3. Evaluation Criteria

Award Fee Plans can include the evaluation of the transition steps in outsourcing. However, the plan at NAS Fallon did not have phase-in or phase-out periods. As stated in Chapter II, the fifth step in the process of outsourcing is transitioning the operation. A smooth transition is vital to the early success of the outsourcing decision, and the Government seems to recognize this. One Award Fee Plan went as far as having separate evaluation periods for the transition periods. Since this plan appears to be the most comprehensive, its breakdown is used to discuss the evaluation criteria. Also, each criteria element carries a certain weight (percentage of 100 percent). The process of determining an award fee amount is discussed at the end of this section.

a. Transition-In Evaluation Period

The evaluation of how smoothly a contractor transitions functions from in-house to contract can be performed at two different times. One option is for the evaluation to be performed separately, usually the first month of the contract. Another

option is to include the transition evaluation in the first yearly performance evaluation. In either case, some typical criteria elements for the transition include the following: level of activity and planning in preparation for the transition-in; timely submission of required post-award deliverables; necessary security clearance (if applicable) applied for and obtained in a timely fashion; communications channels between the contractor and Government officials established and effective; personnel requirements completed; and an overall orderly transition.

b. Contract Performance Period

This evaluation is performed quarterly and can cover the period either after a separate transition-in evaluation or can begin on the contract award date. The award fee earned is determined quarterly based upon monthly evaluations. Some typical criteria elements include the following: quality of work; performance of work; management and administration; flexibility and response; utility efficiency; and cooperation and partnering. Only NAS Fallon divided its performance evaluation criteria into two groups: Overall Project Management and Operations. Overall Project Management accounts for 20 percent of the maximum award fee available and Operations accounts for 80 percent. The Operations criteria are applied systematically to each annex, while the Overall Project Management criteria are applied to the contract as a whole. This separation will be used in the example at the end of this section.

c. Transition-Out Evaluation Period

The evaluation of how smoothly one contractor transitions to another can be performed at two different times. One option is for the evaluation to be performed

separately, usually the last month of the contract. Another option is to include the transition evaluation in the final quarterly performance evaluation. In either case, some typical criteria elements for the transition include the following: level of activity and planning in the preparation for transition-out (e.g. adequate staffing for the turnover of inventories and records, timely closeout of all financial obligations, and clear and effective communication with the successor contractor); quality and timely performance of work performed up until take over by the successor contractor; management and administration; Indefinite Quantity work planned, scheduled, and transitioned in orderly, logical method; and an overall smooth transition.

4. Evaluation Guidelines

The evaluation guidelines describe how well the contractor performed a certain criteria element. These written guidelines generally fall into four categories: outstanding, substantially above average, above average, and average or below average. All three Award Fee Plans differ significantly when these categories are translated into numerical ranges. For example, the outstanding category varies from 86-100 to 91-100 to 95-100. Also, two of the plans require a minimum score in order to receive any award fee amount. Again, these values differ considerably (from 80 percent to 63 percent). How one defines the guidelines and sets the numerical ranges can drastically affect the performance of the contractor. If the ranges are too broad, then the contractor may have less incentive to perform at the Government's expectations. On the other hand, if the ranges are too restrictive, the contractor may not try to earn any award fee.

5. Award Fee Schedule and an Example Calculation

The Award Fee Schedule is a table that translates the numerical rating into the percentage of the award fee which the contractor has earned. It is illustrated in the following example calculation. The Award Fee Plan from NAS Fallon will be used in this example. Also, the Operations performance criteria will be used for one particular annex (i.e., Annex 12 - Transportation). The following criteria elements and weights pertain to NAS Fallon's plan: Quality of Work (30 percent); Performance of Work (30 percent); Management and Administration (25 percent); and Flexibility and Response (15 percent).

In this example, the QAE's gave the contractor the following "grades": Quality of Work (Outstanding - 92); Performance of Work (Above Average - 78); Management and Administration (Outstanding - 94); and Flexibility and Response (Substantially Above Average - 82). These numerical grades are then translated into the percentage earned using Table 6.1 on the following page. For Quality of Work, the numerical grade translates into 78 percent. The three other criteria elements translate into 34 percent, 86 percent, and 45 percent respectively. Then, these earned percentages are multiplied by the criteria element weights. Quality of Work is weighted 30 percent, which is multiplied by its earned percentage of 78 to equal 24 percent. The same procedure is done for the remaining three criteria elements. These weighted scores are then summed. In this example, the sum rounds to 62 percent. This weighted percentage is multiplied by the maximum fee available for the quarter for Annex 12. As shown in Appendix D, this maximum amount is $18,000. Therefore, the fee paid to the contractor (upon FDO approval) is $18,000 times the 62 percent, which equals $11,160. This process is repeated

for each annex shown in Appendix D.

Numerical Rating	Percentage Earned	Numerical Rating	Percentage Earned
61 and below	0%	81	42%
62	2%	82	45%
63	4%	83	48%
64	6%	84	51%
65	8%	85	54%
66	10%	86	57%
67	12%	87	60%
68	14%	88	63%
69	16%	89	66%
70	18%	90	70%
71	20%	91	74%
72	22%	92	78%
73	24%	93	82%
74	26%	94	86%
75	28%	95	90%
76	30%	96	92%
77	32%	97	94%
78	34%	98	96%
79	36%	99	98%
80	39%	100	100%

Table 6.1. Award Fee Schedule

C. FINDINGS

1. Center for Naval Analyses (CNA) Findings

In July of 1993, the CNA published a document entitled Analysis of the Navy's Commercial Activities Program. Its study focused on three bases, NAS Jacksonville, NAVSTA Mayport, and NAS Cecil Field. One of the two questions it attempted to answer using these case bases was the following: Was the performance (by the contractors) adequate? [Ref. 20] The analysis of the quality of services was based upon subjective assessments by the customers and managers of the functions [Ref. 20].

In general, CNA found that the customers and contract administrators were satisfied with the performance of most contractors [Ref. 20]. Each base did, however, have at least one contract that was labeled disastrous by CNA. For example, at Jacksonville and Mayport, the same contractor won the initial bid for large multifunction contracts, but defaulted shortly after award. Government contract administrators had to scramble to bring the functions in-house temporarily until a new contractor could be found [Ref. 20]. CNA also learned at both Jacksonville and Mayport that, when the contractor had underbid, it could not perform. Both bases were forced to award to the low bidder solely on cost due to the small-business set-aside regulations [Ref. 20]. Technical competency was not a factor in the award process. Now, most large contracts are awarded after the bidders pass a qualification step and the Source Selection process. This seems to have reduced the number of bad experiences [Ref. 20]. The CNA study did not comment on whether or not the Award Fee strategy played a role in the overall satisfaction with contractor performance.

2. NAS Fallon Findings

a. Source Selection Plan (SSP)

The SSP was regarded as a beneficial tool in order to ensure that the nonfinancial factors remain at least the same. Even though NAS Fallon's SSP is weighted 50 percent for cost and 50 percent for technical criteria, the bottom line for award is affordability to the Government. Due to the limited DoD funds available, it is nearly impossible to weigh the technical criteria more than cost. Therefore, accurate scope and Performance of Work Statements (PWS's) up front can ensure that the contract

award amount reflects all the known work needed. This will also help to keep the number of contract modifications down. The majority of modifications at NAS Fallon were Government requested. If the Government could write accurate PWS's, then a SSP weighted equally between cost and technical criteria would ensure a fair award and acceptable performance of work. [Ref. 24]

b. Award Fee Plan (AFP)

NAS Fallon has been successful in maintaining the level of performance after the conversion from in-house to contract for two main reasons. First, most of the blue-collar workers now employed by the contractor used to work for the Government. These workers know how the base functions (e.g. utility systems, building systems, etc.) and they know the Government personnel still at the base. Second, the AFP has been used to target the performance of middle and upper managers of the contractor because these people were new. NAS Fallon uses the AFP as a tool to foster innovative thinking and to look for better ways of doing business without making a modification to the contract. The AFP also ensures that the contractor responds to requests in a timely manner and, when needed, quicker than the minimum time requirements. The incentive has proved to be a key way that total control is not lost when a function is outsourced. [Ref. 24]

VII. CONCLUSIONS

DoD has stated that outsourcing is one alternative to achieve the savings needed in order to modernize the force. One area which is to be outsourced is base commercial activities, which include facilities management. This study has shown that not all areas outsourced within facility management are cheaper than when the service is provided in-house. Of the nine areas studied within facilities management, only three show any significant savings at NAS Fallon, where they are outsourced. These areas are the Electrical Utility System, Potable Water System, and Administer and Formulate Contracts. Only one area (O21G/H - Management Support) shows the costs to be similar at both bases. The remaining five areas are significantly cheaper to perform at NAS Miramar using in-house forces.

These results are significant for several reasons. First, DoD contends that an average savings of 31 percent can be achieved through outsourcing [Ref. 20]. In this study, however, only three areas observed support that contention, while five areas do not. The average 31 percent savings is achievable, but not in all facility management areas. Second, the fact that five areas are cheaper using in-house forces may indicate that the Government is becoming more efficient, perhaps because more attention is paid to costs due to the budget restrictions. Third, those individual areas that are significantly cheaper outsourced can be targeted for outsourcing and further savings. Similarly, those areas that are significantly cheaper performed in-house can remain in-house and possibly refined for further cost savings. Finally, the one area which is similar at both bases

requires a more in-depth study before making the decision to outsource that function.

In summary, any blanket statement that outsourcing is cheaper is not always true. Careful studies are needed on a case-by-case basis before deciding which functions to outsource. Cost savings are achievable through outsourcing, but they are also achievable by using in-house forces.

APPENDIX A. INHERENTLY GOVERNMENTAL FUNCTIONS

The following is an illustrative list of functions considered to be inherently governmental functions: [1]

1. The direct conduct of criminal investigations.

2. The control of prosecutions and performance of adjudicatory functions (other than those relating to arbitration or other methods of alternative dispute resolution).

3. The command of military forces, especially the leadership of military personnel who are members of the combat, combat support or combat service support role.

4. The conduct of foreign relations and the determination of foreign policy.

5. The determination of agency policy, such as determining the content and application of regulations, among other things.

6. The determination of Federal program priorities or budget requests.

7. The direction and control of Federal employees.

8. The direction and control of intelligence and counter-intelligence operations.

9. The selection or nonselection of individuals for Federal Government employment.

10. The approval of position descriptions and performance standards for Federal employees.

11. The determination of what Government property is to be disposed of and on what terms (although an agency may give contractors authority to dispose of property at prices within specified ranges and subject to other reasonable conditions deemed appropriate by the agency).12. In Federal procurement activities with respect to prime contracts,

(a) determining what supplies or services are to be acquired by the Government (although an agency may give contractors authority to acquire supplies at prices within specified ranges and subject to other reasonable conditions deemed appropriate by the agency);

(b) participating as a voting member on any source selection boards;

(c) approval of any contractual documents, to include documents defining requirements, incentive plans, and evaluation criteria;

(d) awarding contracts;

(e) administering contracts (including ordering changes in contract performance or contract quantities, taking action based on evaluations of contractor performance, and accepting or rejecting contractor products or services);

(f) terminating contracts; and (g) determining whether contract costs are reasonable, allocable, and allowable.

13. The approval of agency responses to Freedom of Information Act requests (other than routine responses that, because of statute, regulation, or agency policy, do not require the exercise of judgment in determining whether documents are to be released or withheld), and the approval of agency responses to the administrative appeals of denials of Freedom of Information Act requests.

14. The conduct of administrative hearings to determine the eligibility of any person for a security clearance, or involving actions that affect matters of personal reputation or eligibility to participate in Government programs.

15. The approval of Federal licensing actions and inspections.

16. The determination of budget policy, guidance, and strategy.

17. The collection, control, and disbursement of fees, royalties, duties, fines, taxes and other public funds, unless authorized by statute, such as title 31 U.S.C. § 952 (relating to private collection contractors) and title 31 U.S.C. § 3718 (relating to private attorney collection services), but not including:

(a) collection of fees, fines, penalties, costs or other charges from visitors to or patrons of mess halls, post or base exchange concessions, national parks, and similar entities or activities, or from other persons, where the amount to be collected is easily calculated or predetermined and the funds collected can be easily controlled using standard cash management techniques, and

(b) routine voucher and invoice examination.

18. The control of the treasury accounts.

19. The administration of public trusts.

[1] With respect to the actual drafting of congressional testimony, of responses to congressional correspondence, and of agency responses to audit reports from an Inspector General, the General Accounting Office, or other Federal audit entity, please see special provisions in subsection 6.c of the text of the policy letter, above.

APPENDIX B. TYPE OF SERVICES AT NAS MIRAMAR FOR 1996

TYPE SERV	UNIT MEAS	A6,AD,DM,BASE RATES	TYPE SERVICE ABBREVIATION	EFFECTIVE DATE	CARD CODE	AL-TOU RATES	SCI RATES
00	MW		COGEN ELEC COST COLLECTION	951001	A9		
1A	MW	80.00000	COGEN ELEC DMC REVENUE	951001	A9		
1B	MW	90.75000	COGEN ELEC NMC REVENUE	951001	A9		
01	MW	86.61000	TOTAL CONSUMPTION/DM	951001	A9		
02	MW	26.91000	NON-BASELINE/DM	951001	A9		
03	MW	85.67000	TOTAL CONSUMPTION/AD	951001	A9		
04	KW	9.57000	DEMAND CHARGE/AD	951001	A9		
05	MW	47.88000	PEAK CONS/TOU/WINTER	951001	A9	47.88000	
06	MW	72.11000	BASE CONS/TOU/WINTER	951001	A9	72.11000	390.00000
07	MW	18.61000	SEMI-PEAK/TOU/WINTER	951001	A9	18.61000	
08	KW	3.78000	COINCIDENT/TOU/WINTER	951001	A9	4.80000	
09	KW	1.60000	NON-COINCIDENT/TOU/WINTER	951001	A9	4.41000	
10	MW	47.35000	PEAK CONS/TOU/SUMMER	951001	A9	47.35000	
11	MW	70.99000	BASE CONS/TOU/SUMMER	951001	A9	70.99000	390.00000
12	MW	18.69000	SEMI-PEAK/TOU/SUMMER	951001	A9	18.69000	
13	KW	18.24000	COINCIDENT/TOU/SUMMER	951001	A9	21.81000	
14	KW	1.53000	NON-COINCIDENT/TOU/SUMMER	951001	A9	4.41000	
15	KG	4.00000	FRESH WATER	951001	A9		35.00000
16	KG	1.00000	SALT WATER	951001	A9		
19	MB	17.20000	COGEN STEAM DMC	951001	A9		
20	MB	15.25000	PURCHASED STEAM	951001	A9		
21	MB	15.25000	PRODUCED STEAM	951001	A9		60.00000
22	MB	5.50000	COGEN STEAM NMC	951001	A9		
25	KG	3.70000	PURCHASE SEWAGE	951001	A9		64.00000
26	GL	0.05600	GEN IW & CONTAMINATED OW	951001	A9		
27	GL	0.03000	OILY WASTE	951001	A9		
28			HAZ WASTE COST COLLECTION	951001	A9		
2A	GL	1.10000	CHROME	951001	A9		
2B	GL	1.10000	CYANIDE	951001	A9		
2C	GL	1.10000	PHENOL	951001	A9		
2D	GL	1.10000	MIXED METAL	951001	A9		
31	KF	9.00000	GAS	951001	A9		
35	KF	1.60000	PNEUMATIC POWER	951001	A9		
3A	LB	2.60000	TOXICITY NON-BULK	951001	A9		
3B	LB	1.95000	TOXICITY BULK	951001	A9		
3C	LB	1.00000	OTH REGULATED NON-BULK	951001	A9		
3D	LB	0.50000	OTH REGULATED BULK	951001	A9		
3E	LB	3.25000	SPECIAL SERVICES	951001	A9		
40			TELE ACCTG CLOSEOUT	951001	A9		
42			SCAPS COST COLLECTION	951001	A9		
4A	DA	8500.00000	SCAPS VEHICLE	951001	A9		
4B	EA	6500.00000	SCAPS REPORT	951001	A9		
4C	DA	225.00000	TVA METER	951001	A9		
4D	DA	100.00000	MINIRAE PID	951001	A9		
4E	DA	150.00000	GRD PENETRTG RADAR	951001	A9		

APPENDIX B. TYPE OF SERVICES AT NAS MIRAMAR FOR 1996 (CONT.)

TYPE SERV	UNIT MEAS	A6,AD,DM,BASE RATES	TYPE SERVICE ABBREVIATION	EFFECTIVE DATE	CARD CODE	AL-TOU RATES	SCI RATES
4F	DA	75.00000	SOL INTERFACE PROBE	951001	A9		
4G	DA	25.00000	SOL FLUID LEVEL PROBE	951001	A9		
4H	DA	50.00000	NEOTRONIX GAS METER	951001	A9		
4J	DA	25.00000	METROTECH LINE TRACER	951001	A9		
4K	DA	50.00000	FISCHER LINE TRACER	951001	A9		
4L	DA	100.00000	HAND AUGER	951001	A9		
4M	DA	50.00000	SAFETY/SAMPLING KIT	951001	A9		
4N	DA	25.00000	DRAGER KIT	951001	A9		
51	MO		TRANSP (B RENTAL)	951001	A9		
52	HR		TRANSP (C RENTAL)	951001	A9		
54	EX	20.00000	COMM LICENSE CERT	951001	A9		
55	EX	35.00000	DR LICENSE W/O RD TEST EX	951001	A9		
56	TS	50.00000	DR LICENSE W/RD TEST EX	951001	A9		
58	CL	158.00000	FORKLIFT SCHOOL	951001	A9		
60	HR		STABILIZED LABOR RATE	951001	A9		
61	HR	44.60000	E/S RATE	951001	A9		
62	HR	44.60000	PEST CONTROL	951001	A9		
65	TS	16.30000	GEN CHEMISTRY/METALS1	951001	A9		
66	TS	65.00000	ORGANICS/GEN CHEMISTRY1	951001	A9		
67	TS	140.00000	ORGANICS/METALS 1	951001	A9		
68	TS	210.00000	SEMI-VOL ORGANICS/METAL 1	951001	A9		
69	TS	550.00000	MISC TESTING	951001	A9		
6A	TS	35.00000	GEN CHEMISTRY/METALS2	951001	A9		
6B	TS	400.00000	SEMI-VOLATILE ORGANICS 2	951001	A9		
6C	TS	100.00000	ORGANICS/GEN CHEMISTRY2	951001	A9		
6D	TS	170.00000	ORGANICS/METALS 2	951001	A9		
71	TD	0.95000	DRYDOCK OPS/MTCE (CONTR)	951001	A9		
72	WP	0.09000	CONS ADM/INSP 1/90-9/93	951001	A9		
73	WP	0.14000	FSC ALL OTHERS	951001	A9		
74	CE	0.05000	DESIGN LESS THAN $1.5M	951001	A9		
75	WP	0.09000	CONTRACT ADMIN - FSC	951001	A9		
76	WP	0.08000	CONS ADMIN/INSP PRIOR 1/90	951001	A9		
77	WP	0.04000	CONS ADM 1/90-9/93	951001	A9		
78	WP	0.03000	CONS ADMIN PRIOR 1/90	951001	A9		
79	WP	0.22000	A&E/OTH	951001	A9		
7A	WP	0.10000	CONS ADM/INSP 10/93-9/94	951001	A9		
7B	WP	0.12000	FSC JOC 10/93-9/94 (D1182)	951001	A9		
7C	WP	0.14000	FSC HOUSING	951001	A9		
7D	WP	0.14000	FSC SMALL PURCHASE	951001	A9		
7E	WP	0.05000	CONS ADM EFF 10/93-9/94	951001	A9		
7F	CE	0.03000	DESIGN MORE THAN $1.5M	951001	A9		
7G	WP	0.14000	FSC ENVIRON JOC	951001	A9		
7H	WP	0.09000	FSC ENVIRON LAB	951001	A9		
7J	WP	0.11000	CONS ADM/INSP 10/94	951001	A9		
7K	WP	0.06000	CONS ADM EFF 10/94	951001	A9		

APPENDIX B. TYPE OF SERVICES AT NAS MIRAMAR FOR 1996 (CONT.)

TYPE SERV	UNIT MEAS	A6,AD,DM,BASE RATES	TYPE SERVICE ABBREVIATION	EFFECTIVE DATE	CARD CODE	AL-TOU RATES	SCI RATES
7L	WP	0.14000	FSC JOC 10/94 (D1182)	951001	A9		
7M	WP	0.09000	FSC-BPA/GSA	951001	A9		
7N	WP	0.09000	FSC-TRANSP/SECURITY	951001	A9		
7P	WP	0.14000	FSC-HSG SMALL PURCHASE	951001	A9		
7R	WP	0.11000	CONS-SMALL PURCHASE	951001	A9		
7T	WP	0.11000	CONS-HSG SMALL PURCHASE	951001	A9		
81	CY	1.70000	REFUSE (DEMPSTER)	951001	A9		
90	HR	72.34000	CONSULTING	951001	A9		
91	EA	26.00000	EEO COUNSELING	951001	A9		
92	EA	35.00000	MTN TOP MGMT/SOLEDAD	951001	A9		
93	EA	5.00000	PAGING SYSTEM	951001	A9		
94	EA	17.00000	RADIO TRUNKING SYS	951001	A9		
95	EA	12.00000	RADIO INTERCONNECT	951001	A9		
96	EA	2.00000	RADIO TALK GROUP	951001	A9		

Trades	FY 1993		FY 1994		FY 1995		FY 1996	
	NAS Fallon	NAS Miramar	NAS Fallon	NAS Miramar	NAS Fallon	NAS Miramar	NAS Fallon	NAS Miramar
Carpenter	31.45	30.25	32.59	29.30	30.76	29.82	30.82	31.09
Electrician	29.38	31.05	37.45	31.15	36.01	31.12	36.09	31.80
Equip. Op.	37.43	35.28	36.24	35.23	34.63	36.18	34.69	37.83
Painter	29.42	31.25	25.44	30.90	24.48	31.51	24.53	26.45
Cement Mason	26.43	26.04	25.68	26.45	24.62	27.38	24.66	27.19
Plumber/Pipe Fitter	34.42	38.87	33.37	40.02	32.03	40.00	32.09	40.93
Truck Driver	26.57	31.91	25.76	31.87	24.66	32.63	24.70	33.29
Dispatcher	10.44	13.92	10.68	13.90	10.44	14.70	12.15	14.71
Scheduler	11.01	12.68	11.27	12.66	11.01	12.80	11.93	12.81
Secretary	11.01	12.68	11.27	12.66	11.01	12.80	11.93	12.81
Motor Equip. Metal Mech.	21.37	20.89	21.35	20.59	20.40	22.38	21.00	22.44
Forklift Operator	14.82	16.06	14.63	15.81	13.87	16.14	19.19	16.20
Gen. Maintenance Worker	14.79	17.37	14.84	17.06	14.26	21.28	14.29	21.38
Locksmith	20.21	19.73	20.28	19.54	19.47	21.19	19.52	21.25
Sewage Plant Operator	19.87	19.53	20.01	19.38	19.26	20.85	19.31	20.91
Waste Water Operator	19.87	19.53	20.01	19.38	19.26	20.85	19.31	20.91
Word Processor II	11.76	13.71	12.04	13.69	11.77	14.73	12.52	14.74
Bus Driver	17.17	15.95	16.95	15.54	16.06	16.15	16.10	16.23
Mechanic	21.37	20.89	21.35	20.59	20.40	22.38	21.00	22.44
Laborer	14.44	11.40	14.49	10.96	13.92	12.19	13.95	12.76
Average Wage Rate/Hr.	$ 21.16	$ 21.95	$ 21.29	$ 21.83	$ 20.42	$ 22.85	$ 20.99	$ 22.91
Adjustment Factor	1.0372		1.0258		1.1194		1.0915	

APPENDIX D. ALLOCATION OF AVAILABLE AWARD FEE BY ANNEX AT NAS FALLON

ANNEX	ANNEX DESCRIPTION	WEIGHT	ANNUAL AMOUNT	QUARTER AMOUNT
1	ADMINISTRATION	2%	18,000	4,500
2	BQ MGT	6%	54,000	13,500
3	FOOD SERVICE	6%	54,000	13,500
4	SUPPLY	6%	54,000	13,500
6	VISUAL INFO	1%	9,000	2,250
7	HAZMAT/WASTE	6%	54,000	13,500
8	G.ELECTRONIC	5%	45,000	11,250
9	TELEPHONE	1%	9,000	2,250
10	SUPP. EQUIP	5%	45,000	11,250
11	AIR FIELD	5%	45,000	11,250
12	TRANSPORTATION	8%	72,000	18,000
13	PUBLIC WORKS	1%	9,000	2,250
14	AIRSTART	2%	18,000	4,500
15	ELEC. UTILITIES	4%	36,000	9,000
16	HVAC/COMP. AIR	4%	36,000	9,000
17	WATER TREATMENT	1%	9,000	2,250
18	SEWAGE PLANT	1%	9,000	2,250
19	BUILDING MAINT	4%	36,000	9,000
20	HOUSING	3%	27,000	6,750
21	GROUND MAINT	3%	27,000	6,750
22	PEST CONTROL	2%	18,000	4,500
23	SWIMMING POOL	1%	9,000	2,250
24	CUSTODIAL SERVICE	2%	18,000	4,500
25	LIBRARY	1%	9,000	2,250
OPERATION		80%	$720,000	$180,000
OVERALL PROJECT MANAGEMENT		20%	$180,000	$45,000
TOTAL CONTRACT AWARD AMOUNT		100%	$900,000	$225,000

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